



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

LANE MEDICAL LIBRARY STAMFORD STOR
T71 .W182 1905
An introduction to dermatology / by Merr



24503366727

LANE

MEDICAL



LIBRARY

LEVI COOPER LANE FUI





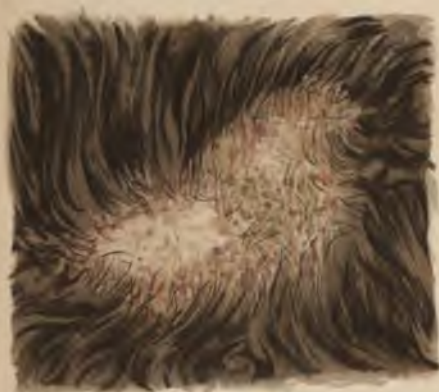
PLATE I.



RINGWORM.



FAVUS.



LUPUS ERYTHEMATOSUS.



ALOPECIA AREATA.

AN
INTRODUCTION
TO
DERMATOLOGY.

THE LIBRARY

BY
NORMAN WALKER, M.D.,
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH;
ASSISTANT PHYSICIAN FOR DISEASES OF THE SKIN TO THE ROYAL INFIRMARY, EDINBURGH;
EDITOR OF THE SCOTTISH MEDICAL AND SURGICAL JOURNAL.

WITH 49 FULL-PAGE PLATES, AND 50 ILLUSTRATIONS
IN THE TEXT.



New York
WILLIAM WOOD AND COMPANY
MDCCCV.

YAGUJ ZAI

T 71
W 182
1905

TO
THE MEMORY OF
SURGEON-GENERAL M. W. MURPHY, A.M.S.
(Formerly of the 80th, and 91st Regts.).
SURGEON-MAJOR FRANCIS HENRY SWINTON MURPHY, A.M.S.,
AND
SURGEON-CAPTAIN WILLIAM NORMAN MURPHY, A.M.S.,
MY
UNCLE AND COUSINS.

PREFACE TO THE THIRD EDITION.

I HAVE omitted in this edition a good deal of argumentative matter which appeared in the former ones. This has enabled me to introduce some new matter without increasing the size of the book.

Electro-therapy now plays so large a part in dermatology, that a good deal of space is necessarily occupied with references to it. But I have endeavoured to retain the simple character to which I believe the book mainly owes its, to me, very gratifying success.

I have once more to express my indebtedness to Dr. Norah Lenwood for her invaluable assistance in its preparation, and to Dr. Allan Jamieson for the generosity with which he allows me to make use of the cases in his wards.

NORMAN WALKER.

Edinburgh.

PREFACE TO THE FIRST EDITION.

THIS work is practically a reproduction of the lectures which for several years I have delivered to my students, and I venture to hope that they may be found useful by a larger audience.

It is to be noted that the title of the book is "An Introduction to Dermatology," and that it does not profess to be a complete system. I have described fully all the more common diseases, and less completely those rare ones which the ordinary practitioner is likely to meet with; while I have omitted, for the sake of space, those rare conditions which are mainly of interest to the specialist.

I have to acknowledge much help received from the writings, etc., of others. In the first place I owe a great deal to Dr. Allan Jamieson. I feel, indeed, that I have hardly done him sufficient justice in the text. Being so closely associated with him, I have unconsciously absorbed much of his teaching, and I desire here to express my gratitude for all I have learned from him. It is, however, only right to make clear that the "new-fangled" ideas in the book are my own; in particular, those on Eczema, Seborrhœa, Lichen, and Lupus erythematosus.

Another to whom, as is evident from my frequent references, I owe much, is my friend, Dr. Unna. No one can write on the skin without frequently quoting

his name, and we have been on such intimate terms for the last few years that I naturally do so more than most. He has been good enough to read and criticize for me the section on Seborrhœa; and his contribution to Eulenberg's "System," on the general Therapeutics of the Skin, which he was so kind as to supply me with while it was passing through the press, has been of much value to me in the preparation of that section.

To the published works of others I am much indebted, in particular to those of Hebra, Tilbury Fox, Erasmus Wilson, Crocker, Morris, and Liveing.

The microscopical drawings, with the exception of Figs. 1, 2, and the animal parasites, are from my own preparations, and they and all the coloured plates are the work of Mr. J. Grieve, to whom I desire to express my thanks for the care and trouble he has taken with them.

Of the photographs, while most are from my own collection, some are from friends, and are acknowledged in the text.

The University of Edinburgh has at last "recognized" a course of clinical lectures on Dermatology, and I trust that this work will do its share in imparting to the students that amount of systematic knowledge which is essential to a thorough understanding of the subject.

June, 1899.

CONTENTS.

SECTION I.

	PAGE
INTRODUCTORY - - - - -	I
STRUCTURE - - - - -	I
CLASSIFICATION - - - - -	7
DIAGNOSIS - - - - -	9
TREATMENT - - - - -	12
INTERNAL TREATMENT - - - - -	13
EXTERNAL TREATMENT - - - - -	18

SECTION II.

ANOMALIES OF SENSATION - - - - -	29
PRURITUS - - - - -	29
ANÆSTHESIA - - - - -	33
DERMATALGIA - - - - -	34

SECTION III.

ANOMALIES OF SECRETION - - - - -	35
HYPERIDROSIS - - - - -	35
CHROMIDROSIS - - - - -	38
ANIDROSIS - - - - -	38

SECTION IV.

ANOMALIES OF CIRCULATION - - - - -	39
URTICARIA - - - - -	39
LICHEN URTICATUS - - - - -	42
EPIDERMOLYSIS BULLOSA - - - - -	44
HÆMORRHAGES - - - - -	44
PURPURA - - - - -	44
Purpura Simplex - - - - -	44
Purpura Hæmorrhagica - - - - -	45
PEDICULOSIS CORPORIS - - - - -	48

SECTION V.

INFLAMMATIONS - - - - -	49
TRAUMATIC INFLAMMATIONS - - - - -	49
DERMATITIS VENENATA - - - - -	51
TRADE DERMATITIS OR OCCUPATION ECZEMA - - - - -	54
DERMATITIS MEDICAMENTOSA - - - - -	55
DERMATITIS ARTEFACTA - - - - -	59

	PAGE
NEUROTIC INFLAMMATIONS	60
ERYTHEMA	61
ERYTHEMA NODOSUM	62
ERYTHEMA IRIS	63
PELIOSIS RHEUMATICA	64
ERYTHEMA SCARLATINIFORME	64
ERYTHEMA MULTIFORME	65
CHILBLAINS	66
PRURIGO	68
HYDROA	69
DERMATITIS HERPETIFORMIS	69
HYDROA GRAVIDARUM	73
HYDROA VACCINIFORME	73
PEMPHIGUS	74
PEMPHIGUS VULGARIS CHRONICUS	74
PEMPHIGUS FOLIACEUS	77
PEMPHIGUS VEGETANS	78
HERPES	78
HERPES FACIALIS	78
HERPES GENITALIS	79
HERPES ZOSTER	80
INFECTIVE INFLAMMATIONS	85
<i>Inflammations of the Surface Epidermis (Cutaneous Catarrh).</i>	
SCABIES	86
CHEIROPOMPHOXYX	91
MILIARIA	93
SUDAMINA, OR CRYSTALLINA	94
IMPETIGO CONTAGIOSA	95
PEDICULOSIS CAPITIS	97
PEDICULOSIS PUBIS	99
ECTHYMA	99
ECZEMA	101
LESIONAL VARIETIES	111
Erythematous Eczema	111
Edematous Eczema	112
Papular Eczema	112
Vesicular Eczema	113
Pustular Eczema	115
Scaly Eczema	115
REGIONAL VARIETIES	116
Eczema of the Scalp	117
Eczema of the Ear	117
Eczema of the Face	118
Eczema of the Eyelids	118
Eczema of the Lips	119
Eczema of the Beard Region	120
Eczema of the Neck	120
Eczema of the Trunk	121
Eczema of the Axillæ	121
Eczema of the Genital Regions	122
Eczema of the Anus	123
Eczema of the Legs	124
Eczema of the Arms	124
Eczema of the Hands and Feet	124

CONTENTS.

xiii

	PAGE
SEBORRHŒA (AND SEBORRHŒIC DERMATITIS) - - -	125
ROSACEA - - - - -	132
ALOPECIA SEBORRHŒICA - - - - -	135
PSORIASIS - - - - -	135
PITYRIASIS - - - - -	142
PITYRIASIS ROSEA - - - - -	142
PITYRIASIS RUBRA - - - - -	144
PITYRIASIS RUBRA PILARIS - - - - -	147
ICHTHYOSIS - - - - -	148

Inflammations of the Deep Epidermis (Glands and Follicles).

ACNE - - - - -	152
ACNE VARIOLIFORMIS - - - - -	160
SYCOSIS - - - - -	160
RINGWORM - - - - -	163
FAVUS - - - - -	176
ALOPECIA AREATA - - - - -	181
DISEASES OF THE NAILS - - - - -	186
LICHEN PLANUS - - - - -	189
PARAKERATOSIS VARIEGATA - - - - -	194

Inflammations of the Corium.

(Sero-fibrinous.)

ERYSIPELAS - - - - -	195
----------------------	-----

(Purulent.)

FURUNCULOSIS - - - - -	196
------------------------	-----

(Necrosing.)

ANTHRAX - - - - -	197
GLANDERS - - - - -	199
ACTINOMYCOSIS - - - - -	199

(The Granulomata.)

RHINOSCLEROMA - - - - -	200
YAWS - - - - -	201
MYCOSIS FUNGOIDES - - - - -	202
SYPHILIS - - - - -	203
TUBERCULOSIS - - - - -	209
LUPUS VULGARIS - - - - -	209
SCROFULODERMA - - - - -	223
ERYTHEMA INDURATUM SCROFULOSORUM - - - - -	224
LICHEN SCROFULOSORUM - - - - -	226
BLASTOMYCOSIS - - - - -	227
LUPUS ERYTHEMATOSUS - - - - -	228
SCLERODERMA - - - - -	236
SCLEREMA NEONATORUM - - - - -	239
LEPROSY - - - - -	239

	PAGE
<i>SECTION VI.</i>	
NEW GROWTHS - - - - -	246
<i>(Malignant.)</i>	
CARCINOMA - - - - -	246
EPITHELIOMA - - - - -	246
RODENT ULCER - - - - -	246
XERODERMA PIGMENTOSUM - - - - -	252
PAGET'S DISEASE OF THE NIPPLE - - - - -	254
MELANOTIC CARCINOMA - - - - -	254
SARCOMA - - - - -	255
<i>(Benignant.)</i>	
VERRUCA - - - - -	256
MOLLUSCUM CONTAGIOSUM - - - - -	257
MOLES - - - - -	259
FIBROMA - - - - -	260
KELOID - - - - -	261
NEUROMA - - - - -	262
ANGIOMA - - - - -	262
LYMPHANGIOMA - - - - -	263
ADENOMA SERBACEUM - - - - -	264
MYOMA - - - - -	264
CHONDROMA - - - - -	265
OSTEOMA - - - - -	265
CLAVUS - - - - -	265
ANGIOKERATOMA - - - - -	265
CORNU - - - - -	266
XANTHOMA - - - - -	266
XANTHOMA DIABETICORUM - - - - -	267
XANTHELASMOIDEA - - - - -	268
<i>SECTION VII.</i>	
MALFORMATIONS - - - - -	269
HYPERKERATOSIS CONGENITALIS - - - - -	269
HYPERTRICHOSIS - - - - -	270
<i>SECTION VIII.</i>	
SAPROPHYTES - - - - -	272
PITYRIASIS VERSICOLOR - - - - -	272
ERYTHRASMA - - - - -	274
<i>SECTION IX.</i>	
ANOMALIES OF PIGMENTATION - - - - -	275
EPHELIS - - - - -	276
CHLOASMA - - - - -	277
VITILIGO - - - - -	277

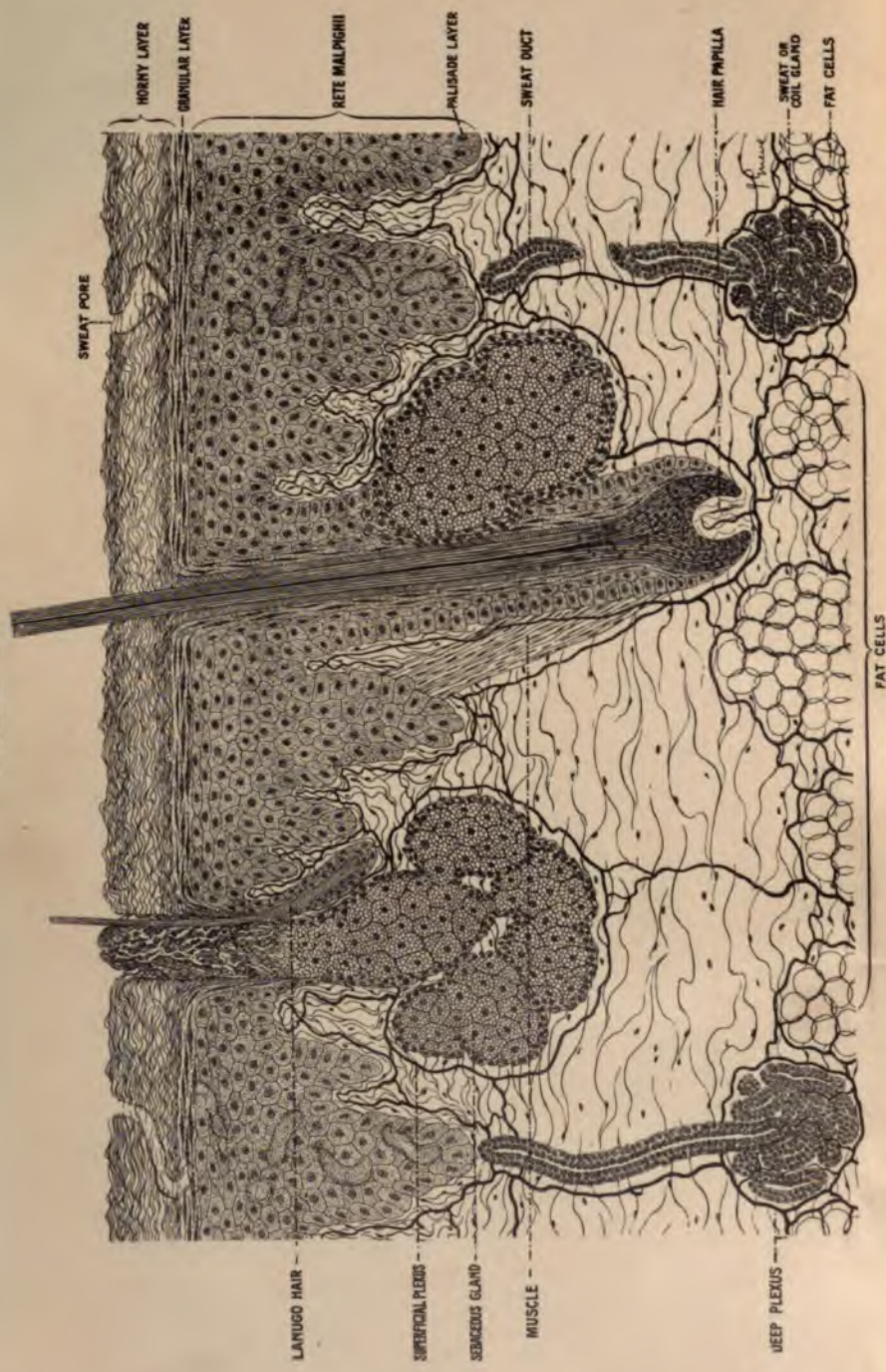
LIST OF PLATES.

PLATE	FACING PAGE
I.—Scalp diseases	<i>Frontispiece</i>
II.—Diagram of Skin	I
III.—Bromide rash	58
IV.—Erythema nodosum	62
V.—Erythema iris	63
VI.—Erythema bullosum	66
VII.—Erythema following vaccination	66
VIII.—Hydroa gravidarum	73
IX.—Hydroa vacciniforme	73
X.—Pemphigus	74
XI.—Herpes zoster	78
XII.—Herpes zoster	79
XIII.—Scabies	86
XIV.—Cheiropompholyx	91
XV.—Impetigo contagiosa	95
XVI.—Impetigo circinata	96
XVII.—Eczema	114
XXVIII.—Seborrhœa	127
XIX.—Seborrhœa	128
XX.—Psoriasis (partly treated)	136
XXI.—Psoriasis	136
XXII.—Pityriasis rosea	142
XXIII.—Ichthyosis	148
XXIV.—Ichthyosis	149
XXV.—Acne (indurata)	152
XXVI.—Ringworm and Kerion	164
XXVII.—Favus	177
XXVIII.—Lichen planus	190
XXIX.—Lichen planus	190
XXX.—Actinomyces	200
XXXI.—Mycosis fungoides	202
XXXII.—Mycosis fungoides (later stage)	203
XXXIII.—Mycosis fungoides	202
XXXIV.—Mycosis fungoides (after treatment)	203
XXXV.—Syphilis (secondary)	204
XXXVI.—Syphilis (tertiary)	206
XXXVII.—Lupus vulgaris	210
XXXVIII.—Erythema induratum	224
XXXIX.—Erythema induratum	225
XL.—Blastomycosis	227
XLI.—Lupus erythematosus	229
XLII.—Scleroderma	238
XLIII.—Leprosy, nodular	240
XLIV.—Leprosy, maculo-anæsthetic	241
XLV.—Rodent ulcer	247
XLVI.—Molluscum fibrosum	260
XLVII.—Keloid	261
XLVIII.—Xanthoma diabeticorum	267
XLIX.—Vitiligo or Leucoderma	277

ILLUSTRATIONS IN THE TEXT.

FIG.	PAGE
1.—Fine fibrils of epithelial cells	3
2.—Sebaceous gland	4
3.—Transverse section of the epidermis	6
4.—Dermographism	39
5.—Pediculus corporis	48
6.—Rhus toxicodendron	52
7.—Primula obconica	53
8.—Erythema multiforme	61
9.—Dermatitis herpetiformis	70
10.—Septic Pemphigus	76
11.—Herpes zoster	81
12.—Lesion in ganglion in Herpes zoster	82
13.—Head and Campbell's zoster areas	83
14.—Head and Campbell's zoster areas	83
15.—Acarus scabiei	86
16.—Norwegian scabies	87
17.—Cheiropompholyx	92
18.—Miliaria	93
19.—Sudamina	94
20.—Pediculus capitis	97
21.—Pediculus, ovum of	97
22.—Pediculus pubis	99
23.—Ecthyma	100
24.—Eczema	105
25.—Pityriasis rosea	143
26.—Ichthyosis	150
27.—Acne	155
28.—Comedo extractor	157
29.—Microsporon Audouini	165
30.—Microsporon culture in test-tube	165
31.—Trichophyton megalosporon	166
32.—Tricophyton culture in test-tube	166
33.—Culture from Tinea barbæ	169
34.—Case of Favus	177
35.—Hair affected by Favus	178
36.—Culture of Favus	178
37.—Scutulum of Favus	179
38.—Alopecia areata	182
39.—Longitudinal section of nail	186
40.—Transverse section of nail	187
41.—Lichen planus	191
42.—Lupus vulgaris simplex	210
43.—Catarrhal lupus	211
44.—Fibroid lupus	212
45.—Scrofulous Gumma	225
46.—Lupus erythematosus	231
47.—Lupus erythematosus	232
48.—Rodent ulcer	249
49.—Molluscum contagiosum	257
50.—Molluscum contagiosum	258

PLATE II.



AN INTRODUCTION TO DERMATOLOGY.

SECTION I.

INTRODUCTORY.

LIKE other organs, the skin is composed of blood-vessels, nerves, connective tissue, and (epithelial) cells, and it is therefore liable to just the same morbid changes. These are of course, just as in other organs, modified by the special structure, and modified still further in the case of the skin by the circumstance of the tissue being exposed to view, and the processes being as it were one-sided. Further, from its external position the skin is more exposed to, and exposed to more forms of irritation than are the other organs. But the essential pathological processes do not in any way differ. It is necessary to elaborate this point, because there is a tendency among students to regard a skin disease as something by itself; some mysterious subject which it is necessary to learn *de novo*, in which the knowledge acquired in their other studies is of little use.

As in other organs, there are found in the skin congenital malformations, hyperæmia, anæmia, inflammation, hypertrophy, and atrophy. New growths abound; and parasites, using the term in the coarser sense, also infest it. Most of the diseases, however, come under the class of inflammations, and may be produced by an immense variety of irritants, to some of which (*e.g.*, heat, cold, light, friction, etc.) the internal organs are relatively strangers.

The skin is divided into the epidermis or cellular layer, along with which should be reckoned its derivatives, the hair follicles, hairs and nails, sebaceous and sweat or coil

glands ; and the corium or true skin, with its vessels and lymphatics. In the epidermis the cells undergo a gradual process of evolution from the columnar (basal) cells to the cornified superficial layers. It is, however, customary to describe several layers, which, it should be remembered, vary in thickness in different parts of the body. Reckoning from without inwards, we have the *Stratum Corneum* or horny layer, *Stratum Lucidum* or clear layer, the *Stratum Granulosum* or granular layer, the *Stratum Mucosum* (*Rete Malpighii*) or prickle layer, and the *Stratum Germinativum* or germinal layer, which from the regular arrangement of its cells is sometimes described as the palisade layer.

The **Germinal Layer** consists of small and regularly arranged columnar cells, with here and there a mitotic figure. Mitotic figures are also found in the lower layers of the next stratum, so that growth and division extend beyond the limits of the germinal layer. These cells contain varying amounts of pigment, according to the colour of the skin.

Following this is the **Prickle Layer**, on the structure of which our views have recently been considerably amended. The earliest idea was that these cells, which are larger than the germinal ones and polygonal in shape, fitted into each other by a series of teeth, the prickles, which dovetailed into one another. It was then observed that the prickles did not fit into each other, but met end to end, and they were then described as inter-cellular bridges, through the arches of which flowed the lymph to nourish the cells. Most recent observations show that these prickles are not mere processes from the cell membrane for the purpose of keeping the cells apart, but that they are fibres of intra-cellular spongio-plasm, which pass from the nucleus of one cell, often through the nuclei of one or more cells, to join another nucleus at a distance. The whole of the cells of this layer are consequently in organic connection with one another, and Ranvier has compared it to one vast cell with many nuclei (Fig. 1).

In the **Granular Layer** the cells are in section elliptical in shape (they are really flattened vertically), and when treated with any nuclear stain, certain granules in the protoplasm of the cell take the stain deeply, and thus give them the granular appearance. These granules consist of a substance named *keratohyalin*, which probably forms the first stage in the transformation of the protoplasm of

the cell into the keratin or horny material of which the surface cells are composed.

The next layer, the **Stratum Lucidum**, which is best seen in the skin of the palms and soles, appears in unstained sections as a clear streak, without any evident structure. When carefully prepared, however, it also is found to consist of cells, which are somewhat swollen, and soaked with fat, into which, therefore, the stain does not penetrate. This fat is known as eleidin, a homogeneous oily-looking substance, in and between the cells. It is not true fat, and does not stain with osmic acid. Duhring and Unna look upon the stratum lucidum as part of the horny layer.

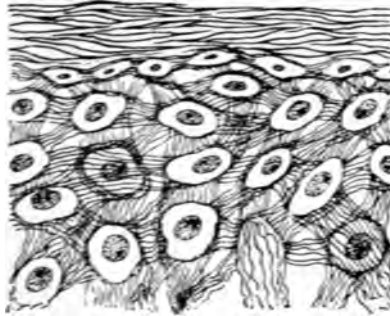


Fig. 1.--Showing the fine fibrils of the Epithelial Cells (after Kr. Mayer); $\times 300$.

The **Stratum Corneum** is made up of three distinct layers. It varies in thickness, being thinnest on the face and on the flexor aspects of the extremities. The lower layer, next to the stratum lucidum, contains a large amount of fat, which makes it waterproof, and is deeply blackened by osmic acid. The cell elements are closely packed. Following this comes a looser layer which seems to consist chiefly of cell membranes, with traces of nuclei only here and there. The cells are held together by the remains of the inter-cellular fibres, which also undergo keratinization. The outer layer is more dense, the cells are closely packed together, and are constantly desquamating on their outer surface. This also is deeply blackened by osmic acid.

- The appendages must be considered along with the epidermis, of which they are all simply variously modified

depressions. At an early stage of foetal life solid prolongations of the epidermis descend into the corium, and there are differentiated into the various appendages.

Thus a **Hair Follicle**, when it has grown a certain length down into the corium, is met by an up-growth, a little capillary loop; which forms the papilla of the hair. This, so to speak, turns the epidermic attack, and the cells in the centre are so modified as to form a hair. It is not of very great moment to commit to memory all the different layers with the famous names which are attached to them, of the hair follicles. Enough is understood when the mode of development is borne in mind.

The **Sebaceous Glands**, which are almost always in close relation to the hair follicles, are also mere extensions of

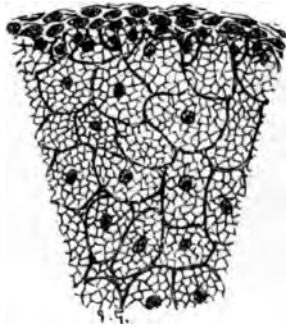


Fig. 2.—Portion of a Sebaceous Gland; $\times 300$.

the epidermis, but the line of their development is different, and the cells, instead of forming a hair, undergo a peculiar fatty metamorphosis which ends in their breaking down into the excretion which we know as sebum. At the border of the gland the cells are of the same type as those in the germinal layer of the skin, but as they grow towards the centre they enlarge, owing to the deposition of fat, often to ten times their original size. The shape of the gland depends upon the blood-vessels of the corium below it. As the epidermis grows downwards it is able to advance steadily against the fibrous tissue, but when in its advance it meets a blood-vessel, the blood-vessel prevails, and the epithelium divides and passes down on each side of it. This is the explanation of the lobulated character of the sebaceous gland.

The **Coil Gland** is developed in very much the same way, except that the process is narrower, and descends further into the corium. When it reaches a certain depth its growth downwards ceases, and it increases by coiling upon itself. The duct is lined by one or two layers of cells, the coil by from one to three, according to its thickness. While the sebaceous gland opens with a distinct mouth, either on the surface or into a hair follicle, the sweat duct terminates at the germinal layer. From this point a channel may be traced between the cells of the epidermis, where the sweat communicates freely with the inter-epithelial lymph, and the duct reappears in the well-known corkscrew form in the horny layer. It will be noticed that the expression "coil" has been used instead of the more usual one of sweat gland. It is many years since it was first pointed out, but it has been largely overlooked, that the sweat glands, while they undoubtedly do excrete on the surface a watery fluid, are not concerned with that excretion solely. Indeed Unna attributes to the coil glands the principal share in lubricating the skin, and a properly conducted examination will never fail to discover in the lumina or cells of these glands a certain, sometimes a considerable amount of fat. The coil is almost invariably placed in immediate relation to a lobule of fat, from which it probably derives substance, and the fact that the palm of the hand, where, if anywhere, perfect lubrication of the skin is required, contains no other glands but the coil glands, is a strong piece of clinical evidence bearing on the character of their excretion. The amount of fat which is observed in the lowest horny layer can hardly conceivably be derived from the sebaceous glands, which open upon the surface with a distinct walled opening.

The connective tissue of the **Corium** is arranged in three layers. The deepest one, in which are often the roots of the hairs and some sweat glands, is loose, and the fibres are coarse. In the middle layer the fibres are finer, and are closely arranged in horizontal bundles. The upper part of the corium is known as the *papillary body*, and immediately adjoins the epidermis. In it the fibres are much finer and their arrangement is looser and more irregular, showing none of the horizontal stratification of the middle layer. The lymph spaces here are wide, or at least have an infinite capacity for widening, and here are found most of the deeper pathological changes in the more

common diseases. It is upon this layer that the epidermis depends for its nutrition. Numerous elastic fibres are distributed throughout the corium.

The **Blood-vessels** of the skin are distributed, roughly speaking, in two layers. At the lower border of the corium is the deep plexus, sending branches to surround and supply the coil glands and hair papillæ. At the upper border of the corium, just where it passes into the papillary body, we find the superficial plexus, sending off processes into the papillæ, each of which contains a fine capillary loop.

The **Nerves** of the skin are fascinating subjects for study. Their terminations may be traced into the Pacinian and Meissner's corpuscles, into and between the epidermic



Fig. 3.—Transverse section of Epidermis, with Papillæ cut across.

cells. They may be found in relation to the hair follicles, and in numbers around the coil glands. Their direct bearing on the diseases of the skin is obscure, and definite changes in them have been found only by a few favoured individuals, and not regularly even by them.

The **Muscles** of the skin are found mainly in relation to the hair follicles, where they take their origin. They are non-striped, and terminate high up in the corium, being attached to the connective tissue fibres. Muscular fibres are also found in certain special situations, such as the scrotum and the nipple. Not of much importance pathologically, their spasmodic contraction increases very much the sufferings of the patient when the skin in these parts is inflamed.

The structure of the *nails* is of such importance in connection with their diseases, that its consideration will be reserved for that section.

One more matter must be mentioned. The epidermis is not, as would appear from the study of a diagram or a single section, attached to the corium by a sort of dovetailing. It is rather a continuous covering of epithelium into which numerous papillæ project, and the term *inter-papillary processes*, which conveys the idea of a down-growth of epithelium into the corium, is misleading. Fig. 3, which is "after" Macleod, shows the true state of matters.

CLASSIFICATION.

Classification is a great trial to everyone who has to teach dermatology. Malcolm Morris very truly says that "while it is a good servant it is a bad master," and slaves to classification are rarely good teachers. Ever since dermatology became a science, it has been the aim of its leaders to formulate a perfect classification, but we are still far from that desirable end. Some have classified diseases according to what are called the primary lesions, and put them in one or another class according as the first morbid change observed is in the form of a papule, pustule, vesicle, bulla, scale, etc.

Willan, the father of English dermatology, used this form of classification, while Erasmus Wilson advised what he called a "clinical" classification, which comprised no fewer than twenty-two varieties. While such a system may prove useful to the expert, it is of no value to the beginner.

The French school classed diseases according to supposed diatheses, some of which are unknown to the general pathologist.

Hebra divided diseases on a pathological basis: Hyperæmia, Anæmia, Anomalies of secretion and exudation, Hæmorrhages, Hypertrophy, Atrophy, Neoplasms, Pseudoplasms, Ulcerations, Neuroses, and Parasitic diseases. While there is much in favour of some such method, it undoubtedly leads to some anomalous conclusions.

Some in despair have had recourse to the exceedingly practical plan of using the alphabet as their means of classification, and describing diseases under A, B, and C. Even if there were universal accord as to nomenclature, the plan is useless to those who are not familiar with skin

diseases. From the student's point of view almost any system is better than none.

To my mind the best, though admittedly imperfect attempt at classification, is that followed by Unna in his "Histopathology of the Skin." It is at all events a more logical one than some of the others, which are too often regardless of the primary principles of classification.

I have, however, found it necessary to modify it in two directions. Firstly, since Unna in his "Histopathology" deals only with disease as evident histologically, certain diseases have no place in his work; and secondly, it has been my experience that the subject is more easily understood by the student with these modifications.

The system will be found in full in the Table of Contents, which the student should read carefully, not as a preliminary, but after he has attained a certain familiarity with the ordinary diseases of the skin. Some explanatory remarks will, however, not be out of place here.

The Anomalies of Sensation are simple and clear. Itching, pain, and anæsthesia, without any antecedent local lesions, are all that are included. Local lesions produced by scratching may be present when the patient presents himself for examination; these are subsequent, not antecedent lesions.

The Anomalies of Secretion.—The increase, decrease, or alteration of character of the sweat secretion naturally come under this heading. Secondary to these, especially when the secretion is excessive, there are often inflammatory and other changes in the skin, but their subsidiary character is evident. Seborrhœa, which is generally included under this heading, may undoubtedly be accompanied by increased activity in the growth and breaking down of the epidermic cells by which alone the sebaceous secretion is produced, but the disease clinically recognized as seborrhœa can hardly be regarded as a pure anomaly of secretion.

The Anomalies of Circulation.—In this section I follow Unna's classification as far as it goes. The lesions of urticaria are so transient, so evidently due to the temporary escape of serum from a blood-vessel, that it seems more reasonable to place them here than under the inflammations, where they are usually classed. No one denies to purpura the right of a place in this section; nor does any one deny that that term includes hæmorrhages

due to a great variety of causes, and I am still unrepentant for placing pediculosis corporis here. The disease must go somewhere; and it is no longer possible to include in one chapter all "Diseases due to Parasites." Since it is the lesions produced which are of importance in diagnosis, for that reason, mainly, I retain pediculosis corporis among the hæmorrhages.

Inflammations.—In a classification of the diseases of any organ, the various forms of inflammation form the largest group, and the skin forms no exception to the rule. Redness, heat, and itching instead of pain, are present in the majority of the diseases which come under this heading: the extent of the skin is so great that the *functio læsa* is only rarely observed. In many, the disease is so mild and superficial that the cardinal symptoms are not noted, and only a microscopic examination discloses the signs of inflammation.

The main division into traumatic, neurotic, and infective is merely provisional and convenient. The terms are not mutually exclusive, and all three factors may play a part in any given case, though one invariably predominates. Closer criticism of the sub-divisions of this section will be found in the pages dealing with them.

New Growths require no definition. I have omitted Unna's section of Retrogressive Disturbances of Nutrition. In such a complete work as his there is no doubt room for such a chapter, but the diseases which I might need to describe under that heading have sufficient relation to the granulomata to justify their inclusion in that section.

The other sections, **Malformations**, **Saprophytes**, and **Anomalies of Pigmentation**, require no explanation.

DIAGNOSIS.

The diagnosis of any given case may be very easy, or it may be, for the time, absolutely impossible.

Dermatology is not practical chemistry (qualitative analysis), where, by adding various solutions, the observer is enabled by a process of elimination to arrive ultimately at an absolute diagnosis.

Dermatology can neither be taught nor learned in this manner. Accuracy of diagnosis can only be acquired by a wide knowledge of the various diseases affecting the skin,

and by making ample use of the experience gained in each and every department of medicine.

To the student the subject appears strange, for it seems to appeal almost exclusively to the eye, while the senses he has mainly been trained to use are those of touch and hearing.

While the eye is by no means our only aid (the sense of touch in many diseases, notably syphilis, being of very great value), a mere picture on the retina of the "pimple" on the skin does not advance matters very much. The picture on the retina must be conveyed to and analysed by the brain, while the eye must penetrate the surface of the "pimple" and divine the nature of the process present beneath.

Too much importance is in my opinion often attached to the distribution of the various eruptions. "Psoriasis attacks the extensor, eczema the flexor surfaces," is one of those phrases which sinks specially deep into the student's mind, although its practical value is almost *nil*. One or two diseases have special seats of preference, but these must be learnt in connection with the different diseases, and it seems to me mere waste of time for the student even to read long lists of diseases which may occur on the back, chest, or limbs.

"No opinion should be definitely pronounced until every portion of the eruption has been seen." This is one of those statements which need not be invariably literally interpreted. It applies especially and mainly to those cases where there is something peculiar about the eruption, and it does not mean that, when a patient has typical patches of psoriasis on the legs and arms, those on the buttocks must also be inspected. But when there is anything about the eruption which strikes the observer as unusual, something which he is not familiar with, or something which causes him to suspect some definite disease, then he must insist on seeing region after region until his suspicions are either confirmed or dissipated. This is particularly the case in suspected tertiary syphilis, where the discovery of old scars, long forgotten by the patient, is of the greatest value in the diagnosis.

In searching for evidence of this sort the word of the patient must not be depended on, and a statement such as "there are no spots on my back," really carries no weight at all. It has been jocularly said that in Vienna any statement

made by a patient is considered as probably untrue, and the joke contains a modicum of truth which gives it point. Information obtained from the patient, if it is to be of any value, must be most carefully elicited.

There are two ways along which error lies. In one the patient intentionally or unintentionally misleads the observer by his replies; in the other the observer unintentionally misleads the patient by a series of leading questions. The poor old woman up from the country thinks it more polite to give the affirmative answer which the "Professor" so evidently expects. The mistake is so common that it may be well to illustrate it. Take a case of suspected Scabies. The proper questions to ask are: *Does the eruption itch? What time of day is the itching worst?* For contrast, the improper questions: *The eruption is very itchy, isn't it? Does it get worse when you take off your clothes at night?* The former question will really elicit information, the latter, in the class of patient referred to, might just as well be left unasked.

The first and the most important inquiry where there is any difficulty in the diagnosis, is: Has any treatment been applied, and if so, what is the treatment and how long has it been carried out? Both well-treated and ill-treated cases may be altered out of all semblance of themselves. Other important questions are whether the present is the first attack, and how long it has lasted. The questions which deal with matters of fact are the ones from which real information can be got; the description, even by the most intelligent, of the manner of commencement of their diseases, is in very many instances misleading or valueless. All questions should be simply put; thus, on inquiry into a suspected case of urticaria, the lesions should be referred to as "like nettle stings," and not as "white wheals."

When an eruption has a peculiar irregular look, especially if it occurs in a young woman, the possibility of its being self-produced should always be considered.

The diagnosis of syphilitic eruptions is probably the greatest difficulty of the inexperienced. Syphilis may imitate almost any disease of the skin, and it is difficult to say whether the more common mistake is to diagnose it when absent, or to ignore it when present. And yet it may be said almost definitely that if the eruption is syphilitic, some other evidence of the disease will be

detected on careful examination. If the disease is recent, there is ulceration of the throat and enlargement of the glands; should it be one of the later eruptions, there will be found somewhere a tell-tale scar.

A very important matter is the diagnosis of the infectious diseases from what may be called "skin diseases proper." Thus, erysipelas is not infrequently confused with acute eczema of the face; modified small-pox with acne; and measles with the antipyrine rash. In such cases the thermometer is an almost infallible guide. Of course coincidences may occur, and the temperature be raised accidentally, but it may be taken as a practical rule that when the thermometer registers high the more serious disease is present.

TREATMENT.

It is now hardly necessary to discuss the question whether diseases of the skin should be treated at all. Hebra's scathing satire on those who, unable to cure the disease, took refuge behind the theory that harm might result from interference, has had its effect, and has driven this absurd doctrine from the profession. Even the laity seems wiser, and it is quite uncommon nowadays to hear the once familiar fears about an eruption being "driven in," though one still hears now and again gratification expressed at its "coming" or being "driven out."

Urticaria and purpura may attack both the skin and the mucous membranes, but we know of no means by which they can be driven from the one to the other, although instances where it appears to attack now the one and now the other occur with considerable frequency in France. According to Unna, a moist eczema of the head of a child may so mask the early symptoms of tuberculous meningitis that the cure of the eczema appears to be followed by the development of the more serious disease. From this, however, we learn, not that we should leave the eczema untreated, but that we should be on the outlook for such a complication. It is as absurd to act on the assumption that the skin only is diseased in any given case, as it is to assume that every disease of the skin depends on some systemic disturbance.

During the incubation period of the infectious fevers any dermatitis present usually tends to disappear. This is notably the case in children with eczema who are sickening

with measles, and rapid improvement in a case which has previously proved obstinate to treatment, especially if associated with a slight rise of temperature, should suggest this possibility.

Treatment in diseases of the skin resolves itself into internal and external, and the former may be again divided according as the action on the disease is direct or indirect.

I.—INTERNAL TREATMENT.

The treatment of the diseases of other organs on which skin affections sometimes depend, will not be considered here. The treatment of dyspepsia, constipation, or anæmia is exactly the same whether a patient has a disease of the skin or not, and if any of these are present their cure will increase the resisting power of the patient, and hasten the cure of the skin disease.

There are, however, a number of internal remedies which are administered with the object of *directly* influencing the disease of the skin. Of these the most important is :—

Arsenic.—Like mercury, arsenic has had its ups and downs. The former, at first used with much success, was later so abused that it was largely abandoned in disgust, and even yet some eminent authorities are in the habit of treating syphilis without its aid. Used with discrimination it is now recognized as an invaluable remedy, and one can only envy the therapeutic resources of those who can afford to dispense with its assistance.

Arsenic has not reached the same haven of security. Used at first no doubt in moderation, its administration became more and more wholesale, until in the middle of last century each and every disease of the skin was supposed to be amenable to its influence. Valuable in many diseases, it is positively injurious in others, and its reckless abuse brought about a reaction.

It cannot be too definitely emphasized that arsenic is not a universal remedy for skin diseases ; it should be used in those diseases where it is known to be of value, and in them only. It may be said generally that arsenic is useful in those bullous diseases which are admittedly neurotic in their origin (pemphigus, hydroa) and in some dry conditions ; and injurious in the vesicular catarrhs of the skin (eczema), and in those associated with hyperkeratosis (acne).

Arsenic is almost invariably administered in this country by the mouth. Subcutaneous injection may be more efficacious, but it is not a method which appeals to the British public. Fowler's solution is the usual form in which it is prescribed. If an acid solution is necessary, the liq. arsenici hydrochlor. is substituted, or arsenious acid may be given in pills. The rules for its administration may be briefly stated : (1) The case must be a suitable one ; (2) The patient's tongue must indicate that his gastric and intestinal functions are satisfactory ; (3) It must always be given after or during meals (always freely diluted if in liquid form) ; (4) It should be given in gradually increasing doses until either (*a*) the disease shows signs of yielding, when the dose need not be further increased ; or (*b*) the well-known symptoms of arsenical poisoning (coated tongue, abdominal pain, or conjunctival irritation) develop, when it should be discontinued for a time.

Various organic compounds of arsenic (cacodylates, arrhenal, etc.) have recently been introduced, and it is claimed for them that they have all the good and none of the evil effects of the arsenic, of which they contain such enormous amounts. According to Fraser, the combination is so stable that there is absolutely no therapeutic effect. My own experience is that, provided sufficient amounts are administered, it is possible to produce all the effects of arsenic, particularly that which gives the garlic odour to the breath, and that the new preparations have no advantage over the old.

Mr. Hutchinson has dealt a further blow to the haphazard administration of arsenic by his observation that its prolonged use may so stimulate epithelial growth as to lead to the development of carcinoma. While it cannot be said that his views have met with general acceptance, there are sufficient cases on record to suggest that there is more than a coincidence in the sequence of events, and now that attention has been drawn to the matter, more exact information will no doubt be forthcoming.

Antimony is recommended by some authorities in those cases where there is heat and tension of the skin, where the general condition of the patient does not negative its use. Jamieson gives the wine ℥viij-xv, two or three times a day, and Morris gives ℥x-xij, repeated in an hour, and again if necessary two hours later. The interval is increased and the dose diminished until ℥vj, thrice daily,

are given so long as the acute symptoms last. Antimony is also found useful in some cases of lichen planus.

Mercury.—In addition to its action on specific disease, mercury often has an action, almost specific, on lichen planus. While most commonly administered in this country by the mouth, inunction and subcutaneous injections bring the patient more rapidly under the full influence of the remedy, and should be preferred where time is of importance. In localized syphilitic lesions, application of the drug in the form of plaster to the seat of the disease is very desirable. There has recently been introduced a method of administering mercury which promises to be of great value. The inunction method has always been supposed to depend on the penetration of minute particles of metallic mercury into the glands, from which it was slowly absorbed into the blood, and the fact was overlooked that the heat of the patient's body was slowly volatilizing the mercury, and surrounding him with a vapour which he constantly inhaled. Experiments on this line (Welander, Blaschko, and others) have shown that many of the effects of the inunction cure can be attained by the patient wearing next his person some fabric impregnated with metallic mercury, which the heat of the body gradually volatilizes. The patient constantly inhales this vapour, and the effects of the mercury are very soon evident. Welander uses mercurial ointment in a bag, Blaschko a fabric impregnated with metallic mercury, in the form of a chest protector, which is described as the "Mercolint Bib." This, worn day and night, remains efficacious for four or five weeks, and I can speak highly of the success of the method, while patients are loud in their praise of its convenience.

Sulphur.—The former great reputation of this drug has grown dim, and as internally administered it has only a limited use. Crocker recommends it in *hyperidrosis*, and it is occasionally useful in erythema multiforme when other methods have failed. The sulphide of calcium, gr. $\frac{1}{4}$ t.d.s., is sometimes brilliantly successful in the treatment of furuncle and indurated acne, while Duhring recommends the hyposulphite of sodium (gr. v-x t.d.s.) in urticaria and furunculosis.

Ichthyol possesses powers far beyond the sulphur which it contains. In urticaria it is probably our most dependable remedy, and in any case where the vessel-nerve relations are disordered it may be hopefully given. It

should be administered to adults in capsules or palatinoids. Fortunately children do not usually object to its nauseous taste, and to them it may be given mixed with glycerin in doses of three or four drops.

Salicylic Acid in its various combinations (sodii salicylas, aspirin, salophen, salicin and salol) is a drug of proven value in all the erythemata ; indeed for erythema nodosum it is virtually a specific. Many cases of erythema multiforme respond to it readily, but on others it has no effect. Following Crocker's advice, I have given it a fairly extensive trial in psoriasis, and while it has sometimes seemed of some value, I have not found it nearly so useful as he has. Aspirin has been especially useful in my hands, and has a more agreeable taste than some of the others.

Quinine is often efficacious in those cases of erythema which do not respond to salicylates ; it is useful in urticaria, especially if any malarial taint is present, and like Dühring, I have found it do good in lichen planus, though we administer it from different motives. Payne recommends it in lupus erythematosus, and it is at least a useful tonic in many cases of widespread hyperæmic dermatitis, and as an alternative to arsenic in pemphigus.

Iodide of Potassium has undoubtedly some influence on inflamed psoriasis when administered in sufficient quantity ; it is useful in actinomycosis and in blastomycosis ; but its chief value lies in its thorough action on the products of syphilis.

Ergot is used by some as a remedy in purpura, and in many hyperæmic conditions such as rosacea, in the usually vain hope of contracting the dilated vessels.

Iron.—So many skin diseases occur in anæmic patients, that iron has a large share in internal treatment. The anæmic skin is especially liable to be attacked by micro-organisms, and its powers of resistance are so weakened that external remedies alone, however suitable, are often long in bringing about a cure. It must, however, be emphasized that it is in this way, and in this way alone, that iron acts, and suitable external treatment must always accompany it. I usually administer it in the form of bi-palatinoids of ferrous carbonate.

Pilocarpine, in the form of repeated injections, sometimes proves of value in greatly infiltrated cases of chronic dermatitis, which fail to respond to less heroic remedies.

Alkalies are undoubtedly useful in many conditions,

but they have no direct action on the skin, and the indications for their use are found in the disorders of other organs of the body.

Purgatives, preferably saline waters, should be given when required, but the hope of purging away skin diseases is fallacious; the apparent improvement which occurs while the patient is reduced by the purging, disappears when he regains his condition. This, of course, does not apply to the use of purgatives in cases of urticaria due to the ingestion of some poison, where a brisk cathartic is often the only treatment required. If such drugs are required, say in a case of eczema with constipation, there is probably nothing more satisfactory than the old-fashioned Epsom salts, made up in some way to suit the more fastidious taste of the present generation.

Animal Extracts.—That the skin is influenced by more than one of the animal extracts is undoubted, and for a time thyroid and other extracts were very largely used and equally largely abused. The most remarkable results were achieved in the thyroid treatment of psoriasis. Having observed the remarkable desquamation following on its use in cases of myxœdema, it occurred to Dr. Byrom Bramwell that a trial might be made in psoriasis. Accordingly a patient of mine was admitted to his ward, and treated with brilliant success. It is undoubtedly the case that if put to bed and given enough thyroid substance, nearly every case of psoriasis can, temporarily, be cured. Under suitable circumstances, there are few objections to the treatment; but most cases of psoriasis are unwilling to submit to much restraint, and the treatment of ambulant cases with large doses of thyroid is not one to be commended. I have seen cases reduced to a serious condition of debility, and in one case a fatal termination ensued. Still, after all, this is merely the history of any new and useful remedy. Reckless abuse is followed by a reaction, and the pendulum swings perhaps too far on the recoil. There are cases of psoriasis which do well on small doses of thyroid; and especially combined with arsenic, it is often a useful addition to other treatment. Indeed, I never now prescribe it except in this combination. In lupus, small doses of thyroid help to diminish the hyperæmia and the catarrhal complications which so often aggravate that disease, and in other forms of hyperæmic dermatitis it sometimes does good. In ichthyosis it is really useful, and it has been administered

with favourable results in scleroderma. I would sum up my views on thyroid by expressing the opinion that it is the advocacy of the drug as *the* means of treatment, to the detriment or derogation of all other remedies, which has to some extent prevented it from attaining the place which its merits deserve.

Supra-renal extract has been extensively used in Addison's disease, and in vitiligo or leucoderma, but without much benefit. In the latter disease I have several times given it a very thorough trial, but I cannot say that I have seen any improvement result from its use; though one patient wrote me from India that since taking it her disease had apparently ceased to spread. It has been suggested as a remedy, both internal and external, for rosacea, but in my experience is useless.

II.—EXTERNAL TREATMENT.

Since in the vast majority of skin diseases the causes are seated in the skin itself, the external application of some suitable drug is clearly the rational method of treatment, while even where the cause lies deeper, external applications are often of great value in moderating the symptoms of the disease.

It would occupy too much space to describe in detail the therapeutic action of the many and varied drugs which are of proved efficacy, while to do the same for every drug which is occasionally used would require a volume. Reference will therefore only be made to groups of drugs according to their action, while the vehicles in which they are applied will be more fully considered.

Anti-Pruritics.—Tar, carbolic acid, cocaine, nicotine, tumenol, hydrocyanic acid, etc.

Astringents.—The salts of lead (particularly the acetate), silver (including the organic combinations, nargol, protargol, etc.), zinc (sulphate), and bismuth (sub-nitrate), alum, and tannic acid.

Caustics.—Caustic potash, pyrogallol, nitrate of silver, arsenious acid, the chlorides, chromic acid, nitric acid, and the acid nitrate of mercury.

Parasiticoïdes.—*Animal.*—Paraffin oil, sulphur, stavesacre, balsam of Peru, styrax, etc. *Vegetable.*—All the salts of mercury, sulphur, iodoform, resorcin, salicylic acid, and numerous others, including many of the modern synthetic compounds.

Reducing Agents.—This term is applied to a whole series of drugs which have in common the power in a greater or less degree of taking oxygen from the tissues, and of promoting the growth of healthy epithelium. Unna has given them the name of “kerato-plastic” remedies. This action is most marked when they are applied diluted. When concentrated, many of them have a destructive action on the epithelium. The most important members of the resorcin, pyrogallol, salicylic acid, chrysarobin, ichthyol, group are sulphur, and tar.

The action respectively of the oxidized and unoxidized form of pyrogallol, and chrysarobin, makes it a little doubtful whether all their good effects are due to reduction; for the former is active in both conditions, while oxidised chrysarobin is comparatively inert.

METHODS OF APPLYING REMEDIES TO THE SKIN.

It is necessary to give full particulars of these, for in many cases where progress is unsatisfactory, the error lies, not in the drug which is applied, but in the method of its application.

Before commencing the treatment of any skin disease, it is first of all necessary to remove from the surface any products of disease (crusts, scales, etc.) which lie on the surface, and prevent any application from reaching the actual seat of the disease. There are various methods of doing this. The part may be covered with strips of lint soaked in olive oil. On the scalp, if its use is not contra-indicated, common paraffin oil, in virtue of its searching and penetrating powers, is of great value in removing accumulated scales and excretions. Hebra's ointment (lead plaster and vaseline, in equal parts), spread thickly on cloth, is very efficacious in removing crusts, and at the same time its action on exposed areas of inflammation is favourable.

Perhaps one of the best methods is the prolonged application of the **Boracic Starch Poultice**, which is made as follows: One teaspoonful of boric acid is mixed with four tablespoonfuls of cold water starch,* and enough cold water to give the mixture the consistency of cream; a pint of boiling water is then gradually added, the mixture being

* Pure wheaten starch makes the best poultices.

constantly stirred until the starch bursts and a translucent jelly results. When this is cold, the amount required is spread on cloth in a layer about half an inch thick. This is covered with muslin and applied to the part. The poultice should be renewed about four times a day, and much trouble will be saved by making enough of the starch jelly to last for two or three days. In addition to its power of removing scales and crusts, this poultice is a valuable soothing application in inflammatory cases.

Baths.—These are used with various ends in view. Where the skin is greatly inflamed a *starch bath* is very soothing. From a half to two pounds of starch is crushed and made into a cream with cold water, and *warm* water from the tap should be caused to run into and overflow the vessel in which the cream has been made. The water must not be boiling, otherwise the starch will “burst.” Bran (lbs. 2–5), and gelatin (lbs. 1–3), may also be used to form a soothing bath.

Alkaline Baths.—The drying after-effect of the alkali on the skin should not be lost sight of in the temporary sense of well-being that a patient with an inflamed skin feels when in these baths. They are more suited for cases where there is some thickening of the skin, as in pruriginous conditions, and are made by the addition to an ordinary warm bath (25–30 gallons), of sodii carb. (℥ ij–x); potass. carb. (℥ ij–v); borax (℥ ij–v) or soft soap (lb. ss–j).

Sulphur Baths are useful in scabies, and also in other conditions in which sulphur is indicated. They are usually made by adding two to four ounces of potass. sulphid. to the bath. Startin recommended sulphur præcip. (℥ ij); sodii hyposulph. (℥ j); ac. sulphuric. dil. (℥ ss). Sig.: Mix in a pint of water and add to the bath. The deleterious effect of sulphur on most metals should not be forgotten, and this is a great objection to its use in private practice. The preparation sold as *Sulphaqua*, which develops free sulphur when mixed with water, is largely free from this disadvantage.

Tar Baths.—While tar may be added to the bath, the usual practice is to *tar the patient* before he enters it. The bath should be prolonged, care being of course taken to maintain the temperature of the water.

Sea Bathing.—If there is much hyperæmia, and especially if moisture is present, sea bathing is likely to irritate and aggravate the disease. On the other hand, its general

tonic effect is sometimes shown beneficially on the skin. It should be discontinued if any irritation follows it.

Powders.—Simple powder when applied freely to the skin protects it from external irritation, soaks up the evaporating or excreting fluid by capillary attraction, and therefore produces a sensation of coolness; the vessels are contracted, so that a certain degree of anæmia results. Its beneficial effects on erythematous and œdematous skin are thus accounted for. Any further effects are due to the chemical character of the powder, and not to its action as such. The more commonly used powders are the oxide, carbonate, and oleate of zinc, starch, lycopodium, rice, talc, boric acid, carbonate of magnesia, kaolin, terra silicea. Violet powder is composed of starch to which a certain amount of powdered orris root is added.

Carbonate of magnesia has the greatest capacity for water, taking up five and a half times its own weight (Gründler). As a simple dusting powder it is excellent, but its great bulk is against its use in pastes. Kieselguhr* takes up three and a half, and oxide of zinc one and one-fifth times its weight of water, and being less bulky these are more used in pastes.

Powders may be simply dredged on to the affected area. If a more prolonged action is desired they may be quilted into muslin bags which are fixed with a bandage, or they may be applied, *e.g.*, on the legs, by wearing two pairs of stockings or drawers, the inner pair being of some open texture, while the space between the two is liberally dredged with powder.

Lotions.—These are mainly used either as applications to subdue itching and irritation, or from motives of economy, when the wide spread of the eruption in any given case makes treatment by ointments very expensive.

Sometimes they are very simple, *e.g.*, ac. carbolic (℥ j); glycerin (℥ ij); water (℥ viij). More frequently they contain varying proportions of powders, with glycerin or mucilage to aid in suspension. In many respects glycerin is not the most desirable addition: it irritates some skins, and in others its hygroscopic qualities actually produce exudation. Mucilage of tragacanth may be used when the reaction of the fluid is acid; if alkaline it is precipitated.

* Terra silicea.

When the fluid part of a lotion evaporates, the powder is left as a protectant to the inflamed skin.

In using a lotion it should be well shaken, and the amount to be used poured into a saucer. It is then dabbed on with a pledget of wool. The thicker lotions are applied with a brush. Any lotion left over should be thrown away and not poured back into the bottle.

Varnishes.—These are fluid or semi-solid preparations which, when spread on the skin, evaporate and leave a thin adherent covering. The simplest of all is Pick's *Linimentum exsiccans*, which is best composed of tragacanth 5, glycerin 5, and water 100 parts. The water and glycerin must be gradually added while the tragacanth is rubbed in a mortar. They form a translucent jelly, which leaves on the skin to which it is applied a thin, almost invisible film, which by its contraction produces a pleasant cooling sensation on inflamed areas. To it various drugs may be added, provided they have not an alkaline reaction. Mixed with 1 per cent of oil of cade, it is often most useful in the erythematous eczemas of the face.

Gelanthum is one of Unna's preparations, and is composed of tragacanth, gelatin, and glycerin. As the preparation is somewhat complicated, I quote from the *British Journal of Dermatology*, Feb., 1897, a formula by Mr. Skinner, M.P.S. :—

R \bar{y}	Tragacanth	5ijss
	Gelatin	3ij
	Glycerin	5vj
	Thymol	gr. 4
	Aq. Destill.	q. s.

Place the tragacanth and the gelatin, each in a covered jar with 10 ounces of water, in a steam bath for twenty-four hours. Then press through muslin, mix, add the glycerin, place in the bath again for an hour, and make up to 12 ounces with water in which the thymol has been dissolved. The object of these complicated proceedings is to deprive the gelatin of the greater part of its power of gelatinizing.

Liddell, of Harrogate, tells me that he gets a smoother preparation by using 110 grs. of tragacanth, and adding a little gum Arabic.

Any powders which are added must be rubbed up with water to a thick cream. Fats may be added up to 10 per cent, glycerin up to 20 per cent. Almost any drug may be added provided its action be not alkaline.

Both these preparations have great merits, not only in themselves, but also from the standpoint of economy, often a most necessary consideration in dermatology, while their cleanliness makes them popular with patients.

Many substances—tar, ichthyol, guaiacol, benzoin, etc may be applied dissolved in spirit, which, when it evaporates, leaves on the skin a thin coating of the medicament. Tar acetone is a favourite remedy with Allan Jamieson. The formula is picis carbonis 10 parts, benzol 20 parts, and acetone 77 parts. Other active ingredients, such as oxidized pyrogallol, may take the place of the tar.

Collodion.—Both the plain and the flexile may be applied simply for their contracting power, or they may be used as vehicles for various drugs (*e.g.*, salicylic acid). Unna has drawn attention to the fact that, unlike the gutta-percha preparations, collodion permits the natural evaporation to go on unchecked, and thus does not “heat” the part.

In place of ether, acetone may be used as the solvent of the gun cotton.

Traumaticin.—This is a solution of gutta-percha in chloroform (3 j–3 j), introduced by Auspitz. It is perhaps most used as a cleanly vehicle for the application of chrysarobin in psoriasis. Though less uncleanly than ointment, it does not altogether prevent chrysarobin staining of the clothes.

Celloidin is very useful in the minor surgery of dermatology, but has not apparently been used as a vehicle for drugs. A solution in equal parts of ether and alcohol is more manageable than a pure ethereal solution.

Glyco-gelatins.—Glycerin jellies or limes.—The word “lime” (bird-lime) has almost dropped from the English language, and the term “glyco-gelatin,” suggested by Duhring, seems the best substitute for the German *Leim*.

The use of gelatin was first introduced by Pick, but Unna’s modification is now almost exclusively used. It is a most valuable application, and as its success depends on its careful preparation, I give it in detail :—

R.	Zinci Oxidi	30·0	R̄.	Zinci Oxidi	
	Gelatini	30·0		Gelatini	
	Glycerini	50·0		Glycerini	
	Aquæ	90·0		Aquæ	āā pts. æq.
	(UNNA.)				

The second formula is that made for me by Messrs. Baidon and Son. The gelatin is laid in a dish and the

water poured over it. It is frequently turned until every part has taken up water and become perfectly supple. It is then melted in a water bath, and the glycerin, previously mixed with the zinc oxide and any other desired medicament, is stirred in. When required for use it is melted in an improvised glue-pot, and when sufficiently cool is painted on the affected surface. It rapidly sets, and when nearly dry may be dabbed with a pledget of absorbent wool, some of the fibres of which adhere and render the film more durable. Ichthyol and sulphur are the usual drugs added to it. Most others, *e.g.*, tar, are best painted on the part and then covered with the gelatin. There is probably no preparation to equal this for use in the dermatitis which accompanies varicose veins of the leg. The gelatin permits natural evaporation to go on freely, and consequently does not "heat" the part; it exercises a most useful compression, allays itching, and keeps off injurious external influences. In winter the proportion of gelatin may be diminished, and in very warm weather increased. Glyco-gelatin is also an excellent means of fixing a dressing on any part of the surface where it is difficult to apply a bandage.

Ointments.—Far too much local treatment consists in the mere perfunctory application of zinc ointment. Recent investigations have disclosed in the healthy skin an unsuspected amount of fat which is absent in certain diseases, proving once more that tradition usually rests on some basis of fact, and that in applying ointment to many diseased skins, we only supply to them what they lack. There are, however, many diseases where the application of grease is of doubtful value, and some where it is distinctly injurious.

The simple application of fat to the skin is by no means without effect. The fat is greedily taken up by the horny cells, causing them to swell up, while it dams back the natural evaporation, and causes fluid to accumulate even as far back as the papillary body, and thus on sensitive skins it sometimes produces a most undesirable hyperæmia and œdema.

Unna gives four indications for the use of fats: (1) Where the cutaneous fat is deficient (ichthyosis, dry eczema, etc.); (2) Where the epidermis is deficient in protective power (trade dermatitis, *e.g.*, in washerwomen and masons, weeping eczema); (3) As vehicles for various medicaments; (4) As directly healing agents.

The fats used are very numerous, but only those commonly employed need be considered.

Lard and tallow have been used from time immemorial. They are always mixed with a certain proportion of benzoin to prevent rancidity. Vaseline should always be prescribed as such. Proprietary preparation though it be, it is much superior to any of its substitutes. The same does not hold of lanolin; *adepts lanæ hydros.* is at least its equal. Anhydrous lanolin irritates many skins by abstracting water, and should only be prescribed when this is desired. Lanolin alone forms rather a tough basis, and when used as an ointment should be mixed with an equal quantity of vaseline, or almond or olive oil ($\bar{3}$ ij– $\bar{3}$ j). Cocoa butter, which melts readily at the temperature of the skin, is a favourite ingredient in pomades, and wax and cetaceum are used mainly in the preparation of cold creams.

Ointments vary in their effect according to their composition, irrespective of any drug which may be mixed with them, and may be divided into three groups: (1) Cold creams or refrigerating ointments; (2) Pastes—stiff ointments; (3) Ointments proper.

(1.) *Cold Creams.* Evaporating or refrigerant ointments.—These act, according to Unna, in virtue of the water which they contain. To put the matter briefly, they take up fluid on one side and give it off freely on the other. From this constant evaporation arises the cooling sensation with which they are associated. In order to obtain the full benefit of this they must be smeared on in a thick layer, not rubbed in like ointments. The *ung. aquæ rosæ* of the British Pharmacopœia is a cold cream; a common formula is *ceræ, cetacei, āā* $\bar{3}$ ss, *aq. rosæ, ol. amygdalæ āā* $\bar{3}$ ss. Sack has drawn attention to the great capacity of *adepts lanæ* for water, and excellent creams may be made as follows: *Adipis lanæ anhydric.* $\bar{3}$ j, *vaselini vel adipis benz.* $\bar{3}$ ij, *et aq. calcis, aq. rosæ vel liq. plumbi subacet.* $\bar{3}$ iij– $\bar{3}$ v.

(2.) *Pastes.*—These are combinations of fat and powder, the latter being in far greater amount than in any ointment, sometimes as much as 50 per cent. Hence they combine the effects of an ointment and a powder. They have not the same penetrating effect as ointments, but in virtue of the fat in them they do penetrate, and take with them any incorporated drugs, while the powder they contain enables them to soak up the excretions instead of damming them

back as mere ointments tend to do. The most familiar of all is Lassar's paste: Zinci oxid., pulv. amyl., lanolin., vaselin., āā 3ij. Other commonly-used powders are kaolin, magnes. carb., and chalk; while Unna strongly recommends, on account of its great absorbent powers, the powder known in Germany as "kieselguhr," a diatomaceous sand which is prescribed as "terra silicea." This possesses such eminent capillary attractive power that 10 per cent added to an ointment suffices to make a paste.

Pastes are rubbed on the skin so as to form a thin adherent layer—a dry, protective covering for the skin. They may be covered with powder, waxed paper, or with cotton wool and a bandage. The following are two of Unna's formulæ:—

℞ Terræ Siliceæ	grs. xx	℞ Terræ Siliceæ	3ss
Zinci Oxidi	3ij	Sulph. Præcip.	3ij
Adipis Benz. ad	3j	Zinci Oxidi	3jss
		Adipis Benz.	3j

I agree with Leistikow that the presence of hair on the part is no contra-indication to the use of pastes. If they accumulate they can easily be removed by the free application of oil.

Any drug may be incorporated with pastes, the amount of powder being diminished if the added constituent is bulky and dry.

(3.) *Ointments*.—In using pure ointments, *i.e.*, small proportions of active drugs mixed with one or other of the fats, their method of action should be borne in mind, and they should only be prescribed when such action is desired.

Pure grease applied to the surface causes the horny cells to swell up, and consequently hinders evaporation. Combined with any drug, it takes that drug along with it as it penetrates into the horny cells; hence ointments are *the* vehicles to select when we wish our drugs to penetrate, to exert what the Germans call "Tiefen wirkung." Having conveyed the drug in, their next duty is to give it up readily, and in this all bases are not alike. Vaseline is said to owe much of its virtue to the readiness with which it parts with incorporated drugs. Lanolin is credited with powers of deeper penetration than other fats, but this quality is not so all-important as is often suggested. The penetrating power of fat is increased by the addition of water (cold cream), or of soap.

Ointments may be rubbed in, spread on strips of cloth and bound on, or if great activity of action be desired, the part may be covered over after their application with some impervious material. If active ointments are applied continuously, their effects must be very carefully watched. Particularly is this the case with regard to salicylic ointment, which, when applied spread on cloth, is very energetic in its action.

Salve muslins are ointments composed of benzoated mutton tallow and a little wax, variously medicated. They are spread either on one or both sides of muslin, and possess advantages on account of their cleanliness and the simplicity of their application, all that is required being to cut a piece of the required size and apply it to the part. Although dearer, they are undoubtedly more efficacious than ointments of similar composition spread upon cloth, and are therefore often cheaper in the end.

The *plaster muslins* are more penetrating in their action, owing to the impermeable basis of gutta-percha on which the medicament is spread. Like the salve muslins, they can be applied to any part. They adhere well, and they far surpass in activity the same drugs applied in any other fashion. They may be fixed on to any part of the body by coatings of zinc glyco-gelatin.

A very handy and most economical method of applying drugs to the skin is the *salve stick* or *pencil*. This is composed of some firm basis in which the drug is incorporated, and is applied by simply rubbing the affected part, the heat of the skin melting some of the stick. Unna's basis is lanolin 2 parts, and wax 1 part. If this is found too stiff, another useful formula is cocoa butter 2, wax 1, lanolin $\frac{1}{2}$. This is a very handy method of applying any drug to circumscribed patches of eczema, *e.g.*, on the hands, while the chrysarobin stick is a useful means of applying that drug in ringworm and alopecia areata.

Soaps.—When soap is mixed with water, it breaks up and sets free a certain amount of alkali, which combines with any greasy matter on the skin, saponifies and removes it. The more alkaline the soap, the more energetic is this action, the alkali attacking the horny cells, softening them, and, if it is concentrated, dissolving them.

The most active soap is *sapo mollis*, made from potash and olive oil. This contains a considerable amount of free alkali, and is chiefly useful in removing thickenings of the

epidermis. It is most commonly prescribed in the form of Hebra's *Spiritus saponatus kalinus*, consisting of 2 parts of soap to 1 part of spirit of wine. Perfumes may be added as desired, or the formula may be modified :—

R. Saponis Mollis	ʒiv
Spt. Coloniensis	
Spt. Vini Rect.	āā ʒj

The indications for its use will be referred to later. When hard soaps are required, soda or a mixture of soda and potash is used. Unna's basis soap is made from 2 parts of soda lye and 1 part of potash lye. Over-fatty soaps are made by the addition to the neutral soaps of an excess of fat, *e.g.*, olive oil 4 per cent. This fat is unsaponified, hence the term over-fatty. For ordinary use neutral soaps are best. Alkaline ones are too thorough in their action, and over-fatty ones require warm water if the cleansing is to be at all satisfactory.

A great deal, perhaps too much, is made of the alkali in soap to the neglect of the other constituents. Probably a good many of the soaps which cause irritation owe that irritation as much to unsuitable rancid fats used in their preparation, as to the alkali which they necessarily contain. Advertisements that a soap contains no free alkali, or even that it contains no alkali at all, are no guarantee that it may not irritate.

Theoretically, soaps should be more useful as vehicles for drugs than they are. Their power of softening the epidermic cells undoubtedly opens those cells more to treatment, and medicated soaps are largely used. They do not, however, in practice prove so satisfactory as they do in theory. They do not carry the drug with them so well as ointments do, and the dosage is uncertain both in amount and concentration. Exceedingly useful in one case, they may prove just as disappointing in their effects in another; and they have their chief sphere in cases where the action of soap as soap is desired, and not as a vehicle for drugs. At the same time they are so easily used, so little trouble is entailed on the patient, that they are often found advantageous, for the patient will use them when he will not trouble to use more unpleasant remedies.

Of the medicated soaps the best known are Eichhoff's, which are made alkaline, neutral, or over-fatty, either in cake or powder. His formulæ are made up in this country

by Midgley, of Manchester, and other soap manufacturers. The powdered soaps are especially useful for application to the back, the powder being dusted on to a wet towel.

The softening power of soap may be taken advantage of by adding it to ointments, as is frequently done in the treatment of scabies.

Soaps may be applied in various ways: (1) Simple washing; (2) Rubbing in the lather and allowing it to dry on; (3) Rubbing in thoroughly until dry; (4) Covering the lather with some impervious material.

Oils.—Oils may be used to soften the thicker ointment bases. Olive oil is used to soften and remove crusts, especially on the head. Linseed oil, along with an equal part of lime water, forms the well-known Carron oil. Paraffin oil is used to destroy pediculi; and cod-liver oil as an external application in lichen scrofulosorum. Almond oil is used in cold creams, and serves to diminish the toughness of lanolin, while castor oil is a usual component of hair-washes, on account of its solubility in alcohol.

Valsol is the name given to a specially prepared fluid vaseline. It forms one of the best media for applying salicylic acid to the scalp, while iodine valsol, when rubbed into the skin, produces some of the effects of the internal administration of iodides.

X-RAYS AND PHOTO-THERAPY.

In the X-rays dermatology has acquired a weapon of remarkable value. Like all valuable remedies, it has great powers for evil, and must be most cautiously used. It is not only the beginner who must be careful; in the use of X-rays familiarity does not breed contempt.

In the early days operators wrote with great confidence as to the best means of producing the rays, and generally ruled out all apparatus different from that with which they themselves worked.

It is apparently of little moment how the rays are generated. The Americans generally prefer the static machine, while in this country the coil is the favourite generator. In the Royal Infirmary we use a Cox coil with a Schall dipper break, and work with a current of 5–8 ampères and 24 volts. At home I have one of Gaiffe's coils, driven direct from the main, where the current is one of 230 volts. The meter generally registers between .5 and

1 ampère. I mention these facts to indicate my opinion that the source is immaterial, for I can produce the results I desire with either.* More important is the selection of tubes, and on that question there is considerable difference of opinion among experts. It is, however, generally admitted that soft tubes are more liable to set up dermatitis, and therefore the beginner should invariably work with a hard tube. When he has acquired experience he will probably develop a preference for soft ones, with which more rapid results can be produced.

It is always desirable to commence with a trial exposure followed by an interval of several days. Events will show the precaution to have been unnecessary in nineteen out of twenty cases, or in even a larger proportion, but unless some reason to the contrary exists this plan should always be adopted. Severe dermatitis may follow on one short exposure, and the possibility of this should be explained to the patient, who can then decide whether he will run the risk.

The surrounding parts should always be protected by a lead covering. Some operators recommend the use of thick lead sheeting, but I have always found that the thick foil used for lining tea chests gave quite adequate protection.

The distance between the patient and the tube is another important factor. It is well to fix a distance, say 6 inches, for a commencement, and when the operator has acquired experience and is familiar with the vagaries of each of his tubes, he may vary it as he desires.

Several special therapeutic tubes have been devised. Of those I have experience with, the best is Cossor's, which only emits X-rays from a small disc at the end of a long process, the rest of the glass being impervious to the rays.

There are also numerous devices for lowering the vacuum of the tube, which always tends to increase, *i.e.*, the tube gets harder and harder. The Chabaud is the only one of these with which I have worked, and that satisfactorily.

The other method of photo-therapy, the method of Finsen, will be described in detail under Lupus, for although it has been used in other conditions, it is only in that disease where the time, trouble, and expense involved are justified by the intractability of the disease.

* I mention some names, not to recommend their apparatus over others, but, for the reason that I think it is desirable in the interests of all workers that each should show by what means his effects are produced.

SECTION II.

ANOMALIES OF SENSATION.

PRURITUS.

(*Prurire—to itch.*)

PRURITUS is not a disease, but a *symptom* common to many diseases. The term should be limited to those cases in which there are no visible lesions, and Pruritus must not be confounded with Prurigo, a definite disease.

When a patient presents himself complaining of itching, the first matter to be determined is whether any parasites are present. In making this investigation the appearance and social position of the patient count for nothing. There is nothing in a title, even an episcopal one, which guards one from the attacks of even such a vulgar insect as the *pediculus corporis*.

Many cases of itching will be found to be due to the presence of the *pediculus capitis*. The irritation in the scalp seems to arouse a general tendency to itching, and scratching produces tiny lesions of the skin, almost invisible yet excessively irritable. Scabies, too, often exists unsuspected, for, in the better classes, the hands being frequently washed are very rarely much affected, while the daily bath prevents the typical appearances of the disease from developing on the body.

Parasitic causes excluded, we turn to the investigation of the internal organs. The first subject for examination is the urine. Diabetes is one of the most fruitful sources of pruritus. Not only do we have those cases of local irritation, specially frequent in females, where the irritation of the sugar produces dermatitis and itching, but diabetes often provokes a tendency to itching all over the body, most marked, of course, in those typical cases where the skin is dry and harsh. Itching is also a frequent accompaniment of various forms of Bright's disease, and it is often associated with increased excretion of uric acid.

Jaundice, whatever be its origin, is frequently accompanied by itching, and other hepatic troubles, such as gall-stones, sometimes reflexly arouse it. Occasionally itching is a troublesome, and sometimes the first, symptom of cirrhosis; the liver and its functions should always be carefully examined in unexplained cases of pruritus. If a likely cause is not found here—indeed, in every case—every organ should be investigated, and any trifling derangement corrected.

Pruritus hiemalis (wintry) is a variety of the disease apparently dependent on external cold, and usually affecting the lower extremities. It is most marked in the winter months, and is usually worst at night. It is possibly not altogether unconnected with the donning of the winter apparel; it often disappears on the stoppage of the cold bath, and is best combated with remedies such as acetic acid, camphor, etc., which stimulate the circulation of the skin. Warm water and friction are useful aids. In old people there is often considerable itching due to the increasing dryness of the senile skin, which is best treated by the application of grease.

The terms **Pruritus Ani** and **Vulvæ** are far too readily employed. While symptomatic itching may be local and limited to these regions, it will generally be found, on thorough examination, that the irritation is caused by *some evident disease* (hæmorrhoids, eczema, oxyuris vermicularis, pediculus pubis, fissures, vaginal catarrh), the cure of which is soon followed by the disappearance of the itching.

There is another form of pruritus which is not so generally recognized, but cases have occurred in my own experience, and Crocker refers to it in his text-book. These are the cases of *mental pruritus*, where the patient suffers from the delusion that his skin is swarming with insects. This form should not be too readily diagnosed. It is no doubt comforting, when one is unable to discover the cause of any disease, to conclude that it exists only in the patient's brain; but it should only be after the most careful search that this conclusion is arrived at.

Remedies.—During the time all these investigations are going on, the patient is naturally anxious to have some relief from his symptoms, and the number of remedies which have a repute for relieving itching is very great. Heat is often efficacious. Its use is said to have been

discovered by Napoleon, who used very hot baths to relieve the itching of eczema. Menthol, tumenol, and nicotine are most easily applied in the form of soap. If the patient is lathered all over before going to bed, the result is often a quiet night. Carbolic acid $\bar{5}$ j, glycerin $\bar{3}$ ss, water to $\bar{3}$ viij, form a lotion which often gives considerable relief. The following formula is recommended by Bronson : \bar{R} Ac. carbol. $\bar{5}$ j- $\bar{5}$ ij, liq. potass. $\bar{5}$ j, ol. lini. $\bar{3}$ j. *Tar* is another useful remedy ; liq. carbonis deterg., $\bar{5}$ j- $\bar{5}$ ij or more, in a pint of water, sponged on, is often soothing. A solution of tar in spirit, a drachm or more to the ounce, may be applied. As the spirit evaporates, a thin coating is left on the skin which has a constricting and protecting action. Acetic and tartaric acid may be freely applied in watery solutions (1-30). Vinegar baths (1-250) are sometimes useful, while some authorities recommend alkaline baths. The narcotic alkaloids are often useful ; they should be dissolved in alcohol or ether, or a mixture of both. Other remedial agents are *balsam of Peru*, *benzoin*, *guaiacol*.

It is also possible to moderate excessive itching by the internal administration of various drugs. A hypnotic should only be advised when the symptoms are very severe, and with a full sense of the responsibility which is involved. Morphia often aggravates itching, and should almost never be prescribed. The bromides, chloral, and *cannabis indica*, either separately or combined as in bromidia, may be tried. Phenacetin, antipyrine, and similar preparations are occasionally useful. Pilocarpine may be tried when the skin is very dry. Brocq gives carbolic acid, gr. j. in pill thrice daily ; and salicylate of soda, gelsemium, nux vomica, ichthyol, belladonna, digitalis, and ergot have all been tried, sometimes with benefit. Static electricity and high frequency currents, if available, may have a trial.

Cases which resist the majority of the recommended remedies are so numerous, that it is necessary to give an extended list, but it must never be forgotten that all are merely directed against the symptoms, and that the real treatment of the disease consists in finding out and removing its cause.

ANÆSTHESIA.

Anæsthesia of the skin is always a symptom of some other malady. In leprosy the anæsthesia of the patches distinguishes them at once from any other disease of the

skin which they may chance to resemble, though other forms of neuritis may be associated with anæsthesia or hyperæsthesia of the skin. In anomalous cases the possibility of hysteria should be considered.

DERMATALGIA.

The pain associated with zoster is neuralgic, and, consequently, more deeply seated than Dermalgia proper. Pain limited to the skin may be a symptom of some systemic disorder, *e.g.*, anæmia, malaria, rheumatism, and gout. The most typical cases occur on the hairy parts of the body, when every movement of the hair sometimes causes excruciating pain. This is probably associated with a hyperæmia of the neck of the follicles, and, according to Unna, is best treated by the internal administration of *ichthyol*.

SECTION III.

ANOMALIES OF SECRETION.

THE two secreting glands of the skin are the coil and the sebaceous glands. Seborrhœa, which, literally translated, indicates an excessive activity of the sebaceous glands, is really a mild inflammatory process, and will be considered among the inflammations. Sabouraud's views on seborrhœa will be found under Acne. The only pure anomalies of secretion which are important are those of the sweat glands. These may either be too active, or inactive, or their secretion may be modified. The most important of these is excessive secretion.

HYPERIDROSIS.

(ὑπέρ-ιδρῶς—the sweat.)

Excessive sweating may be either local or general. General sweating is less important dermatologically, as it is usually dependent on some systemic disease. Of the localized form there are certain varieties. One of these is apparently nervous in origin, as the hyperidrosis is limited to the area of skin supplied by a particular nerve. This condition is most frequently met with on the face. Then there may be excessive activity of the larger glands in the scalp, and in those regions where the parts are covered by the clothes and heated, the axillæ and groins. The palms and soles also are very commonly affected. Especially on the soles, the condition is frequently associated with dermatitis, probably due to the presence of organisms, which further complicate matters by stimulating the glands to still greater activity. General weakness, anæmia, alcoholism, and hysteria are common predisposing causes, and flat-foot is so frequent an accompaniment that it should always be kept in mind.

The condition known as *bromidrosis* (βρωμῶς—a stink)

is simply a complication due to the growth of odour-producing organisms in the exuded sweat.

Prognosis should be guarded. Some cases are very obstinate, and almost all require prolonged treatment.

The TREATMENT differs according to the stage at which the disease is found. If the decomposition has given rise to dermatitis, that must be subdued by mild treatment before the disease itself can be attacked. Ordinary soothing ointments and emollient baths should be used. Hebra's ointment (p. 19) spread on strips of cloth, is of great value. For the Hyperidrosis itself, the first indication is to correct any defect of the general health, such as anæmia. Alcohol, if used too freely, should be interdicted. Among the drugs which have the reputation of diminishing the secretion are belladonna, agaricin, ergot, extract of hydrast. canadensis, and, lastly, *sulphur* (ʒj thrice daily), which is strongly advocated by Crocker. As a local application, *quinine* dissolved in alcohol (1 per cent) has been recommended.

For Hyperidrosis of the axillary and femoral regions, absolute cleanliness and astringent applications are usually prescribed. A decoction of *oak bark*, solutions of *tannin* (5-10 per cent), lotions of *salicylic acid* (2-5 per cent), and drying powders, are recommended by different observers. Leistikow strongly recommends *formalin*, which may be used in the form of soap for a considerable time after recovery. If used as an ointment, *e.g.*,

R Formalini	ʒss-ʒj
Adip. Lanæ	ʒij
Vaselini	ʒss

its effects must be carefully watched, as there is some risk of its producing dermatitis. He also advises the use of zinc sulphur paste (page 26) to prevent recurrence.

In the not uncommon cases where sweating in the axillary regions interferes with social enjoyment, it is worth knowing that the application of *very hot water* on a sponge will usually arrest the excessive secretion for a few hours.

In cases where the disease affects the palms and soles, the latter of which is the condition which most frequently comes under notice, Leistikow lays great stress on the importance of recognizing whether the case is one of cold or hot sweating. If cold, he advises the use of hot baths, with the addition of vinegar, spirits of camphor, etc. The parts are then carefully dried and washed with formalin

soap, the lather of which is allowed to dry on. The principle of this treatment is to induce a hyperæmia which will correct the anæmic condition. The same effect is attained by the application of some such ointment as :—

R Terebinth.	
Ichthyol	āā 3j
Camphoræ	3ss
Ung. Zinci Oxid. ad	3j

In cases of hot sweating the hot baths are omitted, and their place taken by washings with decoction of tan, or weak borax baths, to lessen the hyperæmia. *Sulphur*, *resorcin*, *ichthyol*, *naphthol*, and *salicylic acid* are the most suitable applications in these cases, and it should be remembered that the free secretion immediately tends to reduce their strength.

Another plan of treating Hyperidrosis of the feet is to envelop them in strips of *salicylic soap plaster*, 3–5 per cent. The immediate effect of this is excellent. After a week or ten days the patient seems to be perfectly well, but, unfortunately, there is a great tendency to recurrence. This may, however, be prevented by using dusting powders containing salicylic acid (2 per cent). Powdered tartaric acid is said first to stimulate and then to paralyse the glands, and is worth a trial.

Other methods of treatment are the application of *Condy's fluid*, *nitrate of silver*, or the German military method of painting with a 5 per cent solution of *chromic acid*. *Formalin* has been used extensively, and with excellent results, in the French Army, the feet being bathed in a 1 per cent solution. For very obstinate cases Neebe recommends a most heroic remedy. He pours enough *crude hydrochloric acid* into a large, flat dish to just cover the soles of the feet; the patient stands in this for five to ten minutes, and then washes his feet in warm water and soap. A complete cure is said to require bi-weekly applications for four to eight weeks, and one must admire the heroism of those who undertake it. Another application is the *liquor ferri perchlor.*, followed by some soothing dressing. Cases have recently been recorded where improvement has followed the application of the X-rays or the high-frequency current.

In mild cases it is usually enough to order the patient to wash the feet at least twice daily, to change the socks every day, and, before putting them on, to fill them with some

antiseptic powder, *e.g.*, *boric acid*, or 3 per cent *salicylic acid* in talc or starch. Loosely-fitting shoes and woollen socks should invariably be worn, and any tendency to flat-foot should be corrected.

CHROMIDROSIS.

(χρῶμα—colour.)

Most cases of Chromidrosis are met with in hysterical young women, but we not uncommonly meet with red staining of the clothing in the axillary region, which is due to the growth of organisms. These grow on the hair sheath, and the sweat is stained after excretion. My experience accords with that of other observers, who have met with this most commonly in medical men and students. Probably they are more observant than others. Treatment is not very satisfactory. The parts should be shaved, kept scrupulously clean, and sponged twice daily with perchloride spirit (1-1000).

Blue sweat is probably due to the presence of the *bacillus pyocyaneus*, and bloody sweat owes its colour to the *micrococcus prodigiosus*, but they and the other varieties occasionally described are the rarest curiosities, and still more rarely have they any practical importance.

ANIDROSIS.

Total suppression of the sweat probably rarely, if ever occurs, and the term is generally applied to those cases where the secretion is diminished, as at certain stages in a number of systemic diseases. The secretion is also very notably diminished in ichthyosis, and in many of the dry pruriginous eczemas.

Usually the cure of the condition to which the arrest is due is followed by the restoration of the secretion. Complete cure is so unlikely in ichthyosis that one cannot hope for much improvement, and the skin must be permanently artificially lubricated.

Stimulation of the skin by hot baths and massage is useful. Pilocarpine may be administered, but most useful are those general methods which increase the subcutaneous fat situated in relation to the sweat glands. *Cod-liver oil* or *glycerin* in large doses are favourite remedies. According to Unna, *arsenic* and *ichthyol*, separately or in combination, are usually more efficacious.

SECTION IV.

ANOMALIES OF CIRCULATION.

URTICARIA.

(*Urtica*—a Nettle.)

THE name of this disease almost renders a detailed description unnecessary. The lesions exactly resemble those produced by the sting of the nettle, and the sensations of burning and itching are precisely similar. The wheals are elevated, firm and elastic, white in the centre, with a reddish border. There are exceptionally cases of what has been called **Red Urticaria**, where the white centre of the wheal does not appear.

The nature of the process may best be explained as follows: If in a healthy person a streak made on the skin with some blunt instrument is carefully watched, there will be seen to appear at once a thin red line, which almost immediately turns white, and persists in this form for some minutes. The first effect of the irritation is to cause a momentary dilatation of the vessels, and this is followed by contraction. In some persons where the vessel nerve connection is not perfect, the redness persists for a considerable time, and then gradually fades away. This is practically identical with the phenomenon known as the *tâche cérébrale*. In a certain number of individuals the redness which first appears is carried on a stage further; in addition to dilatation of the vessels, serum is poured out from them. The serum, getting into the interstices of the tissue, compresses the vessels from without, and gradually empties them, and thus we have produced a white wheal, the border where the compression is not effective remaining red. This is the condition known as *Dermographism* (Fig. 4), which in mediæval times was attributed to demoniacal influence. In the case of red urticaria the tissues are presumably looser, and the vessels are not so readily compressd.

It seems more than probable that Urticaria may also attack the mucous membranes, particularly the gastric and bronchial, in the latter instance leading to the development of asthmatic symptoms.

In persons whose vessels do not react normally, Urticaria is produced by a large number of irritants, some of which have no effect in healthy individuals: there are, for instance, a few people on whom the sting of a nettle does not produce any effect, and there are a good many more who are able to withstand the attacks of the domestic flea with impunity. The irritants may be divided into three classes: first, *external*; second, *internal*; third, *reflex*.

External Irritants.—Among these are included the stings and bites of various members of the animal and vegetable



Fig. 4.—Dermographism.

kingdom, *e.g.*, jelly-fish, mosquitoes, caterpillars, and the stinging nettle. Another group less well known is that of the *chemical* irritants, such as those substances used in finishing, dyeing, bleaching, or even in the washing of clothes. Many people predisposed to the malady are unable to wear any other material next their skin than silk, and in one case under my care a lady frequently had a severe attack of Urticaria when clean sheets were put upon the bed (the sheets were washed in a "steam" laundry).

Internal Irritants.—These may be best considered as poisons brought by the blood stream to the skin, and according to Walsh, the eruption is the result of an endeavour on the part of the skin to throw off or excrete the poison.

(Some writers regard these irritations as reflex, but it is probably more correct to regard them as poisons. No one looks upon the eruption produced by, say copaiba, as a *reflex* irritation.)

Among the internal irritants drugs occupy an important place. The commonest drug rashes are urticarial or erythematous in type; indeed the same drug will produce in one person urticaria, and in another erythema. Then we have certain substances taken as food. Of these the most common are, all varieties of shell fish (prominent among which are oysters, lobsters, crabs and whelks), pork, cheese, mushrooms, preserved fruits, pickles, sour wine, rhubarb, strawberries, cherries, and other fruits—indeed, there are very few substances which to some individuals are not, in the urticarial sense, poisonous. In fact in all cases the state of the gastric and intestinal functions should be investigated, since poisons resulting from katabolic changes in the alimentary tract may be absorbed into the blood and give rise to urticaria. Unfortunately, our knowledge is not as yet sufficiently extensive to enable us always to recognize the particular toxin which is responsible, and individual idiosyncrasy plays an important part, but the result of strict dieting and the administration of intestinal antiseptics demonstrate the importance of this factor.

Reflex Irritants.—The most important of these is the presence of worms in the intestine, and this should at once occur to the physician in every case of urticaria in a child.

Uterine and ovarian disease is another fruitful source of reflex irritation. Often the cure of an apparently trivial affection in these regions will be followed by the disappearance of the urticaria. It is a common observation that urticaria frequently follows the tapping of a hydatid cyst of the liver, but other hepatic disorders may be responsible for a reflex urticaria. Indeed, certain anomalous outbreaks of urticaria are, in my experience, not infrequently one of the earliest symptoms of some serious liver disease, such as gall-stone, cirrhosis, or even cancer. Gout may sometimes be the cause, at least treatment with that in view is sometimes successful, and cases are recorded where certain odours (aromatic essences, iodoform, or even roses and hyacinths) have caused the eruption.

VARIETIES.—If the histo-pathology of the affection—namely, an accumulation of serum in the interstices of the skin, be clearly understood, it is easily seen how varieties

may occur. Thus the fluid may not be confined to the corium, but may escape and raise the epidermis in a vesicle or bulla, a condition which has been distinguished by the name of **Urticaria bullosa**; or the vessels may give way and hæmorrhage take place, **Urticaria hæmorrhagica**.

The most important variety of the disease is that known as **Lichen urticatus**, or **Urticaria papulosa**. One is often consulted regarding a child, who is said to suffer from itching. On examination a number of papules are seen, most of them surmounted by a tiny hæmorrhagic crust, and all or nearly all of them within reach of the child's fingers. The appearances suggest scabies, but the favourite seats of that disease, the hands, wrists, and feet, are not specially affected. Very often, as soon as the clothes are taken off, the child begins to scratch itself, and so demonstrate the nature of its disease. If it does not do this, by drawing the finger nail across the sensitive skin an urticarial wheal is at once evoked. Usually the mother, if observant, has noted the appearance of these lesions, but they are so evanescent that their importance is apt to be obscured by the more lasting crusted papules.

Another variety of the disease is known as **Giant Urticaria**, or acute circumscribed œdema (Quinke's œdema). This is more common in adults, and is sometimes associated with alcoholic excess. According to Schlesinger it is sometimes hereditary, especially in the male line, and he also notes as predisposing factors, hysteria, puberty, the climacteric, syphilis, etc. It sometimes follows on the simpler form of the disease, and occasionally gives rise to grave symptoms by making its appearance on the mucous membranes of the throat and larynx, and threatening suffocation. The process is the same, but since the vessels affected are the larger ones of the hypoderm, the swelling is much larger and deeper. There is not in this form the same intense burning and itching which is so frequent in the commoner variety of the disease, indeed the patient himself is sometimes unconscious of its presence. As a rule it appears and disappears rapidly, as does an ordinary Urticaria, though on account of its great depth this process is naturally more deliberate and is occasionally very prolonged.

Urticaria pigmentosa is, in my opinion, not a true urticaria, and will be described later as *xanthelasmoides*.

DIAGNOSIS.—The diagnosis of a wheal is a matter of no difficulty. The wheal is merely a symptom which is evoked

with greater or less facility according as the skin is more or less intolerant of various irritants which paralyse the nerve control of the vessels. Thus the importance of the diagnosis is not so much in the actual recognition of the condition as in the recognition of its cause. When the wheal is found the diagnosis is only begun.

PROGNOSIS.—The prognosis, too, depends on the cause of the malady. In the acute cases it is usually good, but sometimes an irritant which produces an acute attack seems to arouse in the skin a latent tendency to the disease, which lasts long after all traces of the irritant must have passed away. Thus, I was once consulted by a patient who, after an oyster supper at Christmas, had a severe attack of acute Urticaria. When I saw him, in June, although he had eschewed oysters ever since, the Urticaria was still very troublesome. The prognosis really depends on the ability of the physician to find out the cause of the disease and to remove it.

TREATMENT.—In cases of acute Urticaria, due evidently to some obvious error of diet, an emetic or a sharp purge should be ordered. If parasites, either external or internal, are present, their removal is often followed by the disappearance of the Urticaria. If neither of these obvious causes exist, attention should next be directed to the condition of the internal organs, and any disturbance, however apparently trivial, should be corrected. The food must be next attended to. There are wonderfully few articles of diet which may not produce the disease in a person predisposed to it. The articles which are well known to produce it frequently, have already been referred to; but if a case continues obstinate, the various common articles of food and drink should be intermitted in succession, until eventually the guilty one is found.

External irritation must be guarded against. Allusion has already been made to chemicals used in washing the under-clothes, but the under-clothes themselves should, in those subject to the disease, be very soft and un-irritating. It may often be necessary to wear linen under the flannel garments, or to have recourse to those made of silk.

A cold bath sometimes seems to be responsible for the keeping up of the disease, and its modification or abolition may be desirable. Further, irritant substances connected with the patient's work may have a bad effect; and the possibility that the patient may be taking some drug should

be borne in mind. In such cases the irritant must of course be avoided.

If absorption of toxin from the alimentary tract be suspected, intestinal antiseptics should be employed, and the diet should be simplified and even reduced to milk only.

Treatment of the disease apart from a known cause is necessarily empirical. *Ichthyol* has, in my experience, proved the most reliable drug. To adults it may be given in capsules (5 minims three times a day). Children take it quite readily, mixed with an equal part of glycerin. *Salicylate of soda*, *salol*, *aspirin*, and *quinine* are all worth a trial. Chloride of calcium, strongly recommended by Wright, has, I regret to say, not proved of much value in my hands. Unna gives *ichthyol* during the day and an atropine pill at bedtime. *Antipyrine* and *phenacetin* are occasionally administered with success.

The disease known as **Epidermolysis Bullosa** is I believe related to Urticaria. It is a hereditary disease, often affecting, as these diseases do, only one sex in a family. The lesions, which are most common upon the hands and feet, are produced by some form of irritation, usually friction, but the escape of serum from the vessels is so great that the epidermis is raised in a bulla, into which hæmorrhage often occurs. As a rule the nails are affected, being atrophied and deformed, and hæmorrhages from the mucous membranes (probably indicating lesions there) are not uncommon.

The disease is rare, and treatment not very satisfactory, but it is sometimes responsive to treatment for Urticaria.

HÆMORRHAGES.

PURPURA.

(*Purpureus*—*purple*.)

Purpura is a symptom, and not, strictly speaking, a disease. Hæmorrhage may occur in a variety of conditions. It may complicate many skin diseases, such as *urticaria*, *erythema*, and *pemphigus*, but in these cases the hæmorrhage is a secondary phenomenon. But even when limiting the term Purpura to those cases in which hæmorrhage is the sole lesion, we are still far from having a characteristic and definite disease before us.

Purpura simplex may be taken as the type of the disease.

Hæmorrhages, apparently spontaneous, suddenly appear on different parts of the body. Their size varies. In ordinary cases they are usually rather larger than a pinhead. Their colour, at first bright red, does not disappear on pressure, and they are not perceptibly elevated above the skin unless the hæmorrhage is considerable. Each spot lasts until the little hæmorrhage is absorbed, the colour gradually fading ; but fresh crops constantly appear, prolonging the duration of the disease sometimes for months. The eruption is most common in adults on the lower extremities, especially the flexor aspects of the thighs and calves. In children, almost any part of the body may be affected, and the spots often appear first on the neck.

Purpura hæmorrhagica is simply an exaggeration of the same process. The hæmorrhages are much larger, and vary greatly in shape. They are not confined to the skin, but appear also on the mucous membranes ; and epistaxis, hæmoptysis, hæmatemesis, or hæmaturia may occur.

Purpura rheumatica, or **Peliosis**, is a form of *erythema*. (q.v.)

Land Scurvy is a form of Purpura very definitely associated with inefficient food, being found among those whose circumstances are such that fresh food is difficult or impossible to procure. The hæmorrhages are considerable in size, and are especially common upon the legs, while the gums are invariably spongy and bleed on very slight provocation. Under suitable fresh diet the condition of the blood rapidly improves, and hæmorrhages no longer occur.

In ordinary Purpura there is often little apparent disturbance of the general health, but in the hæmorrhagic form the patient is very evidently ill. There is great debility, and the hæmorrhage from the mucous membranes may be so serious as to lead to a fatal result.

Stephen Mackenzie classifies Purpura as follows : (1) **Vascular Purpura**, including all cases where there is some known or supposed primary blood disorder ; the specific blood diseases (leucocythæmia) ; conditions in which some constituent is present in excess (bile, urinary constituents, etc.) ; (2) **Toxic Purpura**, where the hæmorrhages are due to some poison from without, such as phosphorus, mercury, mineral acids, salicylates, and snake venom ; (3) **Mechanical Purpura**, where there is heart disease, varicose veins, etc., and probably senile purpura ; (4) **Nervous Purpura**, in which he includes the forms which

occur in tabes, neuralgia, and (in my view incorrectly) purpura urticans. There must also be added to these classes, cases such as those described by Russell and others, where organisms have been found in the hæmorrhages (**Infective Purpura**).

It used to be taught that blood escaped from the vessels by diapedesis. This theory has been exploded by the careful work of Sack ; and Unna, in his "Histo-pathology," says that if the examination be careful, one will never fail to detect a rupture in the vessel wall. Our object, then, is to determine what it is that weakens the vessel wall and leads to the rupture, for healthy vessels do not rupture. Various theories have been put forward, and several definite observations made. Thus it has been found secondary to thrombosis, produced either by blood-clot, masses of leucocytes, sarcoma cells, or colonies of germs. The idea that changes in the vessel walls, such as waxy disease, may induce Purpura, is hardly warranted by our experience of that very widespread disease. Probably the element on which we should lay most weight is the *condition of the blood* in the vessels and in the *vasa vasorum*. Some weakening in the tissues of the vessel wall must take place before it can give way.

DIAGNOSIS.—The diagnosis of Purpura is easy enough. The fact that the lesions are flat, not elevated above the rest of the skin except where the hæmorrhage is very considerable, separates it from nearly all the other diseases. In true Purpura, hæmorrhage is the only lesion ; any swelling, any surrounding hyperæmia points to some other disease.

PROGNOSIS.—The prognosis is usually good, but the time required for recovery varies very widely. While some cases rapidly recover, others require months of treatment.

TREATMENT.—The late Dr. Angus Macdonald, when lecturing on pelvic hæmatocele, used to say that he had three prescriptions for that "disease," one after all not so distantly related to purpura. Of these, the first was *rest*, the second was *REST*, and the third was *REST*. The advice is equally applicable to Purpura. *Rest* is by far the most potent remedy, and in severe cases it is absolutely essential. The diet should be light but nourishing, and whenever the cause of the disease can be discovered, suitable measures must of course be taken for its removal.

When we come to the question of drugs, we find an enormous diversity of opinion. *Ergot* has a great many supporters. Crocker says that *turpentine* is by far the best remedy; my own experience, necessarily much smaller than his, is that *iron* deserves all he says of turpentine. Unna strongly recommends *tincture of arnica*, mv thrice daily, though he only claims for it a power of promoting rapid absorption of the existing spots, and not of preventing fresh ones. *Chloride of calcium* is often useful in this as in other forms of hæmorrhage, and other remedies recommended are *quinine*, *nitrate of silver*, *acids*, *acetate of lead*, etc. Among so many, it is difficult to make a selection. From the very diversity of the mode of action of these drugs, it is evident that they cannot be useful in the same class of cases; and of ergot, it seems to me that if we assume a weakened condition of the vessel walls, it is more likely to produce hæmorrhage than to check it, for with weakened walls and a rise in blood-pressure, no contraction short of obliteration would seem to be of any value. In the severe cases of Purpura hæmorrhagica all food must be cold, ice should be given freely, and absolute rest must be insisted upon. Graves recommended *tinct. digitalis* (mxx), and *tinct. opii* (mv), thrice daily.

In P. hæmorrhagica the diet has frequently been too restricted, sometimes from choice rather than necessity; and a change to the simple diet of an English farm house—plenty of fresh meat, milk and vegetables—is usually followed by rapid improvement.

Another variety of Purpura, by no means uncommon, is found on the legs of elderly people. At the first glance the case looks like a chronic eczema. Closer inspection, however, shows that in addition to a certain amount of dermatitis which is often present, there are numerous brownish lesions which do not disappear on pressure, and which, when closely examined, are seen to be really small superficial hæmorrhages. It is rare to find among them fresh spots of a red colour, and it is only on careful examination that the hæmorrhagic nature of the case is recognized. There is little disturbance of health, and a slight itching due to the dermatitis is the only complaint. The course of the disease is slow, and little amenable to the routine treatment for Purpura. Acting on a suggestion in Dr. Leistikow's small handbook, I have treated one or two cases with considerable success, by an ointment

containing the *extract of arnica* (3-5 per cent). The patient's general condition must be looked after as in other forms of Purpura.

PEDICULOSIS CORPORIS.

It may seem strange to meet with the description of this disease under the heading of hæmorrhages, but after all it only differs from purpura in that, superadded to the hæmorrhage, we have also a certain amount of irritation, and we are in the fortunate position of being able to put our fingers on the cause. The hæmorrhagic spot in Pediculosis differs from that in purpura in two respects. It has in its centre a dark point which represents the puncture of the insect's proboscis, and it is surrounded by a pink halo of inflammation which is absent in that disease. In addition the hæmorrhagic crusts are frequently present. The irritation caused by the *pediculus* leads to scratching, and the patient's back is usually marked by his nails. These marks are

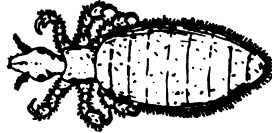


Fig. 5.—*Pediculus corporis*, x 50.

always to be found within reach of the fingers. Thus on the back they reach from the neck a certain length down between the shoulders. They are frequent about the lower angle of the scapula where the hand of the opposite side can reach, while the centre of the back is usually, except in acrobats, free. The presence of these "scratch" lines is almost enough to enable one to make a diagnosis. In no other disease does the patient scratch so savagely. The discovery of the *pediculus* of course makes the diagnosis absolute. It is found by carefully everting the neck of the shirt, for the insects are usually present between the shoulders. Failure to discover them is, however, no proof of their absence. It is very common for patients to pay the hospital the compliment of putting on a clean shirt, and the search is very often in vain. The disease is most common in the elderly, and as in other parasitic diseases, the social position of the patient must never lead the observer astray.

TREATMENT.—Successful treatment depends of course on the destruction of the cause. It was formerly the custom to devote most attention to the clothes, but Allan Jamieson has pointed out that the ova of the insect are frequently found on the lanugo hairs of the body, and this explains the recurrence of the disease in cases where the clothes have been thoroughly disinfected. The treatment, therefore, must be twofold. The clothes must be thoroughly disinfected by heat, moist or dry; and the whole body should be rubbed with a parasiticide ointment, such as sulphur or stavesacre.

Jamieson has also pointed out that a small piece of sulphur worn in a bag round the neck is an excellent prophylactic in the case of elderly neglected patients.

SECTION V.

INFLAMMATIONS.

THIS heading comprises the great majority of skin diseases. Our knowledge has not yet sufficiently advanced to enable us to subdivide them in an entirely satisfactory manner. Unna's subdivision is, however, a working one, although it necessitates some assumptions. He divides inflammations into Traumatic, Neurotic, and Infective, names sufficiently descriptive of the main characters of the diseases they include.

TRAUMATIC INFLAMMATIONS.

These are induced by some form of external injury, and may be sub-divided according as the cause is *mechanical*, *physical*, or *chemical*.

Mechanical Causes.—The most typical of these is friction, which is a common cause of inflammation of the skin; it is usually, however, complicated by the development of organisms on the injured surface.

Physical Causes.—These include the various forms of light and heat, which are quite different in their effects. Sunburn is caused by the light, and not by the heat of the sun. The severest sunburns occur in the Alps, high up among the cold of the glaciers, and it is to the ultra-violet rays of the light that the ill-effects are due. The electric arc light produces a condition somewhat like sunburn, while the X-rays may cause severe dermatitis, and sometimes considerable destruction of tissue.

Prolonged heat produces, as on the legs of stokers and cooks, deep pigmentation often accompanied by some inflammation. The milder forms are evidenced only by moderate scaling of the surface, but the effects of course depend upon the extent of the period of exposure and the idiosyncrasy of the individual.

Chemical Causes.—It is practically impossible to give a complete list of all the chemical irritants which induce irritation of the skin. The effects are not all to be regarded as inflammatory; some of them, for instance, are almost purely urticarial, as the sting and bite of various plants and insects. Paraffin induces a growth of epithelium, sometimes of epitheliomata, which can hardly be ranked with inflammations, and many of the caustics produce simple death of the tissue without any inflammation at all.

DERMATITIS VENENATA.

(*Venenatus—poisoned.*)

The forms of inflammation which are produced by the external application of chemical irritants are erythematous, vesicular, or pustular. These may be present alone or grouped in various ways. For instance, croton oil produces an *erythemato-pustular* rash, while the rhus toxicodendron produces an *erythemato-vesicular* one.

Aniline dyes, especially the orange dyes, are sometimes the cause of an eruption, papular, vesicular, or pustular.

Arsenic in the form of a dye is often irritating, and if the cause is not recognised, and if arsenic is given to cure the "skin disease," bad is made worse.

Certain drugs when applied to the skin may give rise to some irritation, some of them invariably, others exceptionally. Chrysarobin, cantharides, mercury, and mustard are among the more familiar. Their use sometimes sets up erythema, which may go on to the formation of papules, vesicles, or even to a moist dermatitis.

The **juices of certain plants** set up a severe form of dermatitis, some in all, some only in certain individuals. The poison ivy, the poison oak, and the poison sumach (*Rhus toxicodendron*, *Rhus diversiloba*, *Rhus venenata*) are very familiar to American dermatologists. Thanks to the kindness of Dr. Frank Nicholson, of Hull, I am enabled to give an illustration of the appearance of the *R. toxicodendron* (Fig. 6). Dr. J. C. White, in a recent paper referring to other suspected creepers, says, "If one would only remember that three leaflets mean possible danger, and that five mean safety, mistakes would not so often occur." The *R. vernix*, which grows in Japan, is said to be more irritating than any other plant; it is used in the preparation

of Japanese and Chinese lacquer work, and the effects of fresh lacquer are so familiar, that "varnish" poisoning is well known in these countries. In specially susceptible persons old lacquer goods may set up the irritation. The



Fig. 6.--*Rhus toxicodendron* (See *Brit. Med. Journ.*, March 4th, 1899).

Primula obconica is the plant which in this country is generally credited with the production of a similar dermatitis. Prof. Bayley Balfour has kindly furnished me with the illustration, from which Fig. 7 is taken. It forms Plate 658 in *Curtis' Botanical Magazine*, where it is described as

P. poculiformis. Cases are on record where a dermatitis was caused by the *Primula sinensis*, *Humea elegans*, *Heracleum giganteum* (cow parsnip), the hyacinth, ivy, common horse-radish, and even on occasion the humble daisy. Many



Fig. 7.—*Primula obconica* (*P. poculiformis*).

plants are, however, irritating to certain skins, and any eruption in those who have to do with flowers, plants, or wood (teak, mahogany, green ebony, lignum vitæ) should be suspected.

Dermatitis venenata usually begins on some exposed part (face or hands) as an erythemato-vesicular rash, with marked burning and itching. The eruption soon spreads to other regions, and an alarming amount of œdema is frequently developed.

Erythematous eczema of the face and hands, with œdema, should always lead to a searching enquiry, with Dermatitis venenata in view.

TREATMENT.—In the acute stage soothing lotions and dusting powders are generally useful, one consisting of sodii hyposulph. $\frac{3}{j}$, glycerin $\frac{3}{ss}$, and aq. ad $\frac{3}{viij}$ being recommended by Munro for the severe cases of rhus poisoning. In the later stages he recommends Lassar's paste, and that will generally be found useful in the less severe forms of D. venenata met with in this country. White, of Boston, who has made a special study of rhus poisoning, recommends black wash. After all, the essence of successful treatment is the recognition and removal of the cause; thereafter the dermatitis is to be treated according to the degree and form of the inflammation present.

Trade Dermatitis.—Inflammation of the skin of the hands due to irritants among which the patient works, are very numerous. Washerwoman's Eczema, Baker's Itch, etc., are old familiar forms; but printers, silver-platers, photographers, furniture polishers, rubber-workers, packers, and others are often attacked. In most cases some lowering of the systemic tone has preceded the attack; were nothing but the irritant involved, every worker would be affected. The form of the eruption varies with the irritant: suspicions of its nature are usually aroused by the limitation to the hands; and the history of the case, rather than the presence of vesicles, crusts, etc., is the guide to a correct diagnosis.

Strictly speaking, all the various trade eruptions are varieties of Dermatitis venenata, and, like that form of inflammation, they speedily disappear when the cause is removed. It is, however, very often impossible for the patient to give up or even to change his occupation, and therefore some directions for the management of such cases will be of value.

TREATMENT.—The principle of management is to avoid depriving the skin of the lubricant which protects it from the irritation, and to supply one in its place where deficient. The directions are Unna's, and will be found most useful.

At night the patient should wash his hands first with

oil, then with soap and water. The hands are then dressed with strips of cloth spread with oil or ointment. In the morning this is removed with *dry* wool, and the parts are rubbed with the salve stick (page 27), a mixture of wax and lanolin not easily saponified by alkalies (so often the irritant). It may be applied at intervals during the day, as necessary. After work the hands should be cleansed with oily wool, thorough washing being limited to once daily. Housewives should do all their dirty work at once, then thoroughly wash the hands, and keep the dressings closely applied for the rest of the twenty-four hours. Hebra's ointment is a very useful application, and weak resorcin ointments or solutions make the epidermis more resistant.

DERMATITIS MEDICAMENTOSA.

The number of drugs which, taken internally, have been reported once or oftener as the cause of an eruption on the skin, is so great that it would be impossible in the limited space of a work such as the present to do more than name each. Many of them, however, are merely curiosities of idiosyncrasy, and though interesting are of little importance.

The production of a rash by a drug must in all cases be regarded as an idiosyncrasy on the part of the patient, otherwise such rashes would be invariable. Various other factors, however, come into consideration. Sometimes, for instance, the rash is due to some impurity in the drug, sometimes to the condition of the patient's stomach, and perhaps more often to the condition of the kidneys. Iodide rashes, for instance, are more easily produced when there is albuminuria.

Speaking generally, the drug rash, as one would expect, resembles that of those diseases which are attributable to the circulation of some irritant in the blood, and thus the majority of drug eruptions are *erythematous* or *urticarial* in their nature. But, just as in the diseases of these types, the exudation of fluid is sometimes very great, and vesicles and bullæ may accidentally be produced (as in herpes iris, erythema bullosum).

The rashes associated with the more commonly used drugs may be briefly described. For fuller information on the subject, Dr. Colcott Fox's admirable critical summary of Morrow's work on drug eruptions should be consulted ("New Sydenham Society").

Antipyrine.—The antipyrine rash resembles that of measles. The eruption lasts for three or four days, and is followed by desquamation. It is said to affect the extensor rather than the flexor surfaces, and generally to spare the face and the upper part of the neck. Sometimes one dose is sufficient to produce the eruption; usually it appears after some days' use.

Antitoxin.—The injection of antitoxin sometimes causes a widespread erythematous or urticarial eruption. The eruption is independent of the amount injected, and its appearance is often delayed for some days.

The eruptions produced by **Arsenic** have been lately somewhat exaggerated in importance. It is seventy years since a similar epidemic of arsenical poisoning occurred in Paris, in which the symptoms so resembled those in the recent Manchester epidemic that it is a matter for surprise that some of the antiquarians of our profession did not recognize them at a much earlier stage. The symptoms commonly produced are irritation of the palms and soles, which become red, moist, and tender. Conjunctivitis is not so pronounced a feature as some suggest, but a peculiar glistening appearance of the conjunctiva is generally present. The Manchester epidemic demonstrated on a large scale the truth of an observation made by Mr. Hutchinson, that persons under the influence of arsenic are exceptionally liable to attack by herpes zoster.

Belladonna.—The rash of belladonna is very bright in colour, closely resembling that of scarlet fever. It is most common on the face and neck, has a very short existence, and is not followed, as a rule, by desquamation. Itching is a prominent feature.

Boric Acid.—Boric acid is sometimes followed by an erythematous rash, but the most striking eruption is the one first described by Gowers in 1881 as resembling psoriasis. The resemblance is not usually very close; it is really a fine papular eruption, each papule becoming scaly on its apex. I have more than once seen it in patients whose bladders were being washed out with boric solutions.

Chloral.—The eruptions produced by chloral are said not to be so numerous as formerly, possibly owing to the greater purity of the drug. It specially affects the face, producing a diffuse erythematous redness. It is very much aggravated by the ingestion of hot drinks or food.

Other forms of rash, urticarial, vesicular, and hæmorrhagic, have been noted.

The **Copaiba Rash** is a very familiar one. Sometimes it appears immediately after the taking of the drug; sometimes a few days elapse. The type of rash is a papular erythema, especially distributed around the joints, more particularly the hip joints. It is associated with considerable itching, disappears when the medicine is stopped, and is usually followed by some slight desquamation.

Mercury.—The skin rash most associated with mercury is that which follows on its external application; but erythematous rashes, sometimes resembling those of scarlet fever, and sometimes multiform in character, have been noted to occur after the internal administration of the drug, usually in heroic doses.

Morphia.—Owing to the wide use of morphia, the fact that it may produce a rash is especially important. Short of a rash, it may lead to the sudden development of intense itching, an additional warning that it should never be given for the relief of that symptom. The characteristic morphia rash is erythematous, resembles scarlet fever, and is followed by profuse desquamation. The rash is so like that of scarlet fever, that if there should happen to be at the same time congestion of the throat, the diagnosis is a matter of considerable difficulty. Urticarial and papular rashes are exceptionally noted.

Quinine.—The rashes associated with this drug vary greatly in character, almost every form of elementary lesion having been observed. The most common is the erythematous, which appears first on the face and neck, and may spread all over the body. In any suddenly-appearing scarlatiniform rash the possibility of quinine as the causal factor should be considered.

As in similar drug eruptions, desquamation usually follows. The urticarial form which is sometimes assumed may be exceptionally severe, leading to closure of the eyes and a sensation of oppression in the chest, possibly owing to the development of lesions on the mucous membranes. Papular and vesicular eruptions are less frequently observed, but they certainly do occur. They are sometimes widely distributed, sometimes confined to a limited area.

Turpentine.—The internal administration of this drug is followed by an intensely red, erythematous rash, which may be accompanied by a number of papules.

Bromides and Iodides.—The eruptions produced by the bromides and iodides are so common and so important as to deserve separate description.

The rashes produced by bromides are many. Urticarial and erythematous forms are frequent; but the administration of *bromide of potassium* is especially associated with a pustular or acne-like eruption. This usually appears in patients who have been taking large doses of the drug, though cases are recorded where almost incredibly small doses have been responsible for its development. It consists in the appearance of a number of follicular pustules, varying in size just like those of acne, from which it is usually easily distinguished by its distribution. Acne has very special seats of predilection, and very rarely extends beyond the face, chest, and back, while the bromide eruption spreads downwards on the trunk, and appears also on the limbs. There is rarely any difficulty in getting a history of the use of the drug, though it may happen that the eruption does not appear until a few days after the administration has been stopped. In children, often after quite small doses—one or two teething powders—a more severe eruption is often produced. Of this, *Plate III* is a typical illustration, taken from a patient under the care of the late Mr. Dale James, of Sheffield. The lesions are tuberos, dusky red in colour, and when squeezed pus issues from numerous openings. Sometimes in adults numerous clear blebs appear on the trunk, closely imitating the pemphigoid rash produced by the iodides.

The *iodide* rash appears in several forms. A papular erythema is sometimes seen; sometimes the eruption, like that produced by bromide, simulates acne; but the eruption which is perhaps more than any other associated with iodine is a bullous one, somewhat resembling pemphigus. In rare cases the lesions produced are at first solid, and later break down in a manner so similar to the gumma, that one or two patients have been dosed into their graves by the pushing of the very drug, which was the original cause of their trouble. In others, large solid tumours have developed, leading to the mistaken diagnosis of malignant disease or even leprosy. Iodic purpura has been described by Stephen Mackenzie.

The dose requisite to produce the rash varies. While it usually results from considerable doses, cases are on record where 5-grain doses continued for a day or two have



BROMIDE RASH.

sufficed to produce serious eruptions. It is a matter of common observation that all these rashes are more likely to develop when any form of Bright's disease is present. As a rule the more familiar symptoms of iodism are not produced when the skin is affected.

DIAGNOSIS.—As might be expected, the diagnosis of drug eruptions is by no means easy. But in spite of their simulation of other diseases, there is usually something which arouses suspicion that the diagnosis of the case is not such plain sailing as at first appears. Thus, the distribution of the erythematous and urticarial rashes is usually more widespread than that of the diseases they simulate. For instance, the copaiba rash shows a wealth of erythema on the limbs and abdomen, rarely seen naturally, while the eruption of antipyrine is more diffuse than that of measles. The acneiform rash of bromide and iodide is much more widespread than acne itself, while, on the contrary, the gummatoid lesions occasionally produced by iodide are less often multiple than the true gumma. Suspicion once aroused, investigation will do the rest, and, as a rule, the rapid subsidence of the eruption on the stoppage of the drug confirms the diagnosis.

DERMATITIS ARTEFACTA.

Another and a most important form of traumatic inflammation is the eruption intentionally produced by malingerers, or hysterical girls. The particular irritant of course varies. School boys are generally aware that the "fox's pinch" can be produced by moistening the finger with saliva and steadily rubbing one spot on the right hand, and thus they secure freedom from the writing class for a few days! Nitric acid is commonly used by the hysterical, while carbolic acid, tartar emetic, etc., are more or less popular. Some even use burning matches. The lesions produced are always more or less "kenspeckle." The full effect of the irritant is evident right up to the border of the patch; there is not the gradual fading seen in natural disease. The lesions (and this is a very important fact) are almost invariably within reach of the right hand. Cunning as such patients are, this little circumstance usually escapes them, and is often the clue which leads to their detection.

If this self-infliction is suspected, the patient should be carefully watched, and the part so dressed that any tampering with the dressing is at once detected; indeed, the physician must become for such cases a very "Sherlock Holmes."

Rank, education, intelligence, can none of them exclude the possibility of self-infliction, and the greatest tact must be exercised in all the investigations so as to avoid complications. It is no doubt in accordance with human nature that the physician should stand by his own patient, but the number of cases shown to Dermatological Societies, where the exhibitor is in a minority of one against the self-infliction theory, is very remarkable, and should be remembered in every doubtful case,

TREATMENT.—All the traumatic inflammations usually rapidly disappear when the cause is removed. Naturally, the time required depends on the extent, depth, and severity of the effect. Thus the X-rays often produce an ulcer which takes months to heal, while ordinary sunburn disappears in a day or two. The treatment is of the simplest nature, and is to be conducted on general principles. In sunburn a very useful application is Pick's linimentum exsiccans (page 22). If the dermatitis is severe it must be treated by the application of some soothing ointment (lead plaster and vaseline, pts. æq.) or of starch poultices.

NEUROTIC INFLAMMATIONS.

The diseases grouped under this heading are admittedly somewhat difficult to place. Many regard them, and with a considerable show of reason, as being closely allied to the angio-neuroses, a class of affections where the nerves seem to lose control of the vessels. On the other hand, some members of the class show relationships to the infective inflammations, to which Unna considers it probable that they all belong. Nevertheless, some influence seems to be at work which we can only attribute to the nervous system, and which seems to justify their classification as a separate group. I have followed British custom in placing Pemphigus along with Hydroa, instead of among the infective inflammations where Unna puts it.

ERYTHEMA.

(ἐρυθρὰς—red.)

“Erythema” (*Plates IV, V, VI, and VII*) strictly means redness, and in this sense it has been applied to a number of conditions where the redness of the skin was brought about by some deep-lying disease, such as an abscess or dropsical fluid distending the skin. Like many other of the older names, it has latterly become more restricted in its use, and for practical purposes it may be taken to mean the disease called by Hebra *Erythema exudativum multiforme*.



Fig. 8.—Section from a case of Erythema multiforme showing dilated vessels, cellular infiltration around them, with some thickening of the horny layer; $\times 50$.

This name, though comprehensive, is eminently descriptive of the eruption. We have *erythema*, or redness; *exudation* into the deeper layers of the skin; and the *forms* which it may assume are indeed *many*. In distinction from urticaria, to which it has certain resemblances, the vessels are not compressed, and thus the lesions have always a red colour. The accompanying drawing is from a section of a nodule on the wrist. It shows the distended vessels surrounded by leucocytes, and a certain amount of thickening of the horny layer which is not present in urticaria, and is an indication of the more durable character of each lesion. More frequently than in urticaria the process of exudation extends to the surface, and there is often in the centre an elevation of the horny layer leading to quite a considerable

bullæ. Such cases are often diagnosed by those unfamiliar with the disease as Pemphigus (*vide Plate VI*).

Certain accompaniments of the disease place it almost beyond doubt that it is due to some poison circulating in the blood. Thus it is often ushered in by a rise of temperature and some disorder of one or other of the mucous membranes, or by pains about the joints. In many cases the eruption is roughly symmetrical, attacking both hands or both feet, both arms or both legs. The occasional occurrence of groups of cases suggest something of an epidemic character. Like many skin diseases, it is said to be more common in spring and autumn. If the terms spring and autumn be enquired into, it will generally be found that they must be considerably expanded in order to fit in with this theory. It is most common in the young, and there is a very suggestive connection with the rheumatic poison, especially in some varieties. The forms of the disease differ so much that it is advisable to consider them separately.

Erythema Nodosum.—This is most common in adolescence, and affects the female sex in the proportion of two to one. It is accompanied by more or less constitutional disturbance, and often by pains in the joints, sometimes so severe as to suggest the onset of acute rheumatism. A series of "oval swellings with their long diameter parallel to that of the limbs" appear on the extensor aspects of the legs and arms, below the knees and elbows, frequently only on the legs, and practically never on the arms alone. Although the oval swelling may be the most typical form assumed by the lesions, they are by no means invariably of this shape. In the coloured drawing (*Plate IV*), in which the shape of the lesions is checked accurately from a photograph of the case, it will be seen that they are the exception rather than the rule. The Plate shows lesions at various stages; some are fresh, others in process of disappearing. At first bright red, they soon become dusky, and a purplish tint makes its appearance. At first firm and tense, and very tender on pressure, they afterwards become softer, and give the sensation of containing fluid, though they never suppurate. The first eruption is rarely the last; repeated crops make their appearance, and prolong the duration of the disease for from three to six weeks. One attack does not protect from subsequent ones, but there is no great tendency to recurrence.

PLATE IV.



ERYTHEMA NODOSUM.

PLATE V.



ERYTHEMA IRIS.

The connection of this form of the disease with rheumatism is very suggestive. It frequently occurs in rheumatic patients, and even more frequently in those who have suffered from some of the other diseases which are associated with that poison, such as chorea, endocarditis, and quinsy.

The disease must be clearly distinguished from a much rarer condition, Erythema induratum, or Bazin's disease, which is described among the tuberculous affections, and which also finds its victims mainly in young women.

TREATMENT.—The treatment of this form of erythema is fortunately simpler and more satisfactory than that of most of the diseases of the skin which are due to internal poisons. By nearly universal accord *salicylate of soda** is regarded as almost a specific. It should be given in full doses. There is one other specific for Erythema nodosum, and that is *rest*, which is as important, if not more so, than the administration of any drug. No local treatment has any curative effect, but the part may be protected by the application of glyco-gelatin or cotton wool.

Erythema iris (*iris—a rainbow*) is another form which has a very characteristic appearance. It is most common on the hands and feet, but it also very frequently attacks *the mucous membrane of the mouth*, and is occasionally found on the face and neck. The spots are round and raised, and the exudation making its way towards the surface, raises a ring of vesicles round the border (Herpes iris) or a considerable bulla in the centre. There is a general tendency to ringed shape, and often a certain play of colours in the different rings, whence arises the name Erythema iris. The small ulcers into which the lesions on the mucous membrane of the lips and mouth are rapidly transformed not infrequently lead the inexperienced to diagnose syphilis. There is not, as a rule, much pain in connection with this form of erythema, and the general constitutional disturbance is often slight, but it is almost certain that the first will not be the last attack. *Plate V* is from a photograph of the hand of a young man, taken during his seventh attack.

TREATMENT.—Left to itself, each attack runs its course in two or three weeks, and in slight cases very little treat-

* Salicin, salol, aspirin, etc., are usually equally efficacious, in exceptional instances more so.

ment is required. Salicylate of soda is by no means such a specific for this variety as for Erythema nodosum, but it is helpful in many cases. If it fails, *quinine* often succeeds. External treatment is usually required; not that it does anything to cure the disease, but it is useful in preventing the infection of the very frequently ulcerated spots. It consists in the application either of some mild antiseptic ointment such as ammoniated mercury (grs. v to ʒ j), or of some protective application, such as Unna's gelatin (p. 23), before the vesicles rupture.

Peliosis Rheumatica (*πελιός*—*livid*), *Purpura rheumatica*.—This is another variety which presents such constant peculiarities as to entitle it to a separate description and name.

The disease commences with some systemic disturbance, rise of temperature (up to 102°), and *joint pain*, especially in the knees and elbows. In a day or two the lesions begin to appear, usually in the neighbourhood of the painful joints. In many ways they resemble those of Erythema nodosum, or multiforme; they are hyperæmic, and elevated from the escape of serum; but more or less hæmorrhage is *constantly present*. Just as in Erythema nodosum, the appearance of fresh crops of lesions prolongs the disease, which frequently lasts several weeks. The spots go through the ordinary discolouration process of cutaneous hæmorrhage, and finally disappear, leaving no trace of their presence.

The rheumatic relationships of the disease are fairly evident, though why the lesions should be constantly hæmorrhagic is unknown. The occasional cutaneous hæmorrhages occurring in the course of acute rheumatism should not be too readily christened Peliosis. Some of them are almost certainly due to the salicylates with which the case is being treated. The erythema is the primary, the hæmorrhage a secondary, though invariable feature of the disease.

TREATMENT.—This is to be conducted on the same lines as that of Erythema nodosum. Rest, as in all hæmorrhages, is of even more importance than in that disease. The fact that the salicylates occasionally bring about cutaneous hæmorrhages need not be seriously considered. Even if a few additional ones are produced, they are of little account when the drug is gradually overcoming the disease. Quinine may, however, be tried as a substitute.

Erythema Scarlatiniforme.—This is an acute erythema

so closely imitating scarlet fever as to thoroughly deserve its name. It is ushered in as a rule with some general disturbance which may vary within wide limits. The rash may appear immediately, or be delayed for a day or two. As the name indicates, it generally resembles that of scarlet fever, but sometimes rather suggests measles. Desquamation sets in early and is usually very abundant, large sheets of skin being thrown off. Recurrence is not uncommon, and cases are on record where patients have been admitted again and again into fever hospitals. The cause of the disease is not definitely known, but cases have been observed to follow on various forms of poisoning, septic or other, among which the various drugs which give rise to eruption must not be forgotten.

Diagnosis is, of course, the most important feature of the disease, and in all cases of doubt it is well to err on the safe side. Generally speaking, the constitutional disturbance is less severe than in scarlet fever, and the strawberry tongue is absent. But there may be redness of the fauces. If the rash resembles measles the diagnosis is easier, for the other symptoms of that disease are absent.

TREATMENT.—A simple dusting powder is all that is required locally, and, except in recurrent cases, no further treatment is required. In them quinine, salicylates, and tonics are said to do something to prevent attacks.

Erythema multiforme.—There still remain a number of forms of erythema so numerous that they may all be grouped together as *Erythema multiforme*. If the forms already described are excluded, the remaining varieties may be said to affect the trunk and face more than the limbs. Raised, red patches of various shapes appear on different parts of the body, and the process of exudation may extend to the production of bullæ or even hæmorrhages. In short, the line between this class of case and red urticaria is often exceedingly difficult to draw. The history and the progress of the diseases do, however, differ. The lesions of *Erythema* are as a rule more lasting, less itchy, and of a darker colour than those of urticaria, and there is generally more systemic disturbance.

Erythema multiforme is by no means so obviously related to rheumatism as are the named varieties. The eruptions are much more chronic, persisting, it may be, for months, while rheumatic symptoms are chiefly conspicuous by their absence. I would except from this statement a form

of disease attacking the face and trunk, in which the lesions are circular, and resemble those of erythema iris (*vide ante*). Such cases, though not associated with much pain, are very amenable to the salicylate treatment, while the typical Erythema multiforme lesions, with their irregular shape, are by no means frequently influenced by that drug. On the other hand, *Plate VI* illustrates the reverse condition. The situation on the arms, and the escape of the fluid from the corium into the epidermis, clinically evident as a bulla, indicate a relationship to the "Iris" variety, but the drawing is taken from a patient who had had the disease for months; that is to say, in its course it followed the type of Erythema multiforme, using the term in its restricted sense. It is cases like this which the inexperienced are apt to diagnose as pemphigus, overlooking the fact that the exudative erythema is the primary change, and the escape of fluid more or less accidental. But the varieties of erythema are infinite in number, and but little is gained by expanding descriptions of rare though interesting forms.

Arguing from the analogy of the rheumatic form, it seems probable that those which are not definitely rheumatic are also due to some toxin circulating in the blood, and our endeavours must be directed to its detection.

In this connection the occurrence of the disease after vaccination, instances of which have recently been reported in this country (*Plate VII*) and America is of considerable interest, since their toxæmic origin is so obvious.

In all cases it is necessary to enquire very carefully into the general health, and to correct any disorders, especially of the digestive or excretory system, which may be present. If no cause can be found, the disease must be treated symptomatically, and my experience is that *sulphur* acts better than the salicylates or quinine.

CHILBLAINS.

(*Erythema pernio.*)

This is usually considered as a variety of erythema, and the redness and exudation are the same as in the other varieties. It must be admitted that in many respects it does not closely resemble the other varieties of that disease. While they are apparently dependent on some internal poison, chilblain is very clearly dependent on the external

PLATE VI.



ERYTHEMA BULLOSUM.

PLATE VII.



ERYTHEMA FOLLOWING VACCINATION.

application of cold. For its development something more is required, however, and Unna considers it to be most correctly described as an acrocyanosis (*ἄκρος*—*a point*), for some congestion of the circulation at the extremities (fingers, toes, ears and nose), where it is normally least vigorous, is necessary before the effects of cold are shown in the development of chilblains.

The symptoms are, unfortunately, only too familiar. The irregularly round, itching, burning patches which appear in winter on the situations above alluded to, and which, when neglected or improperly treated, sometimes go on to form small indolent ulcerations, usually require little skill for their diagnosis.

They are found, of course, most frequently in patients with weak circulation, and, therefore, they occur with exceptional frequency in the subjects of tuberculosis; but there is no etiological connection with that disease.

There is only one disease with which chilblain can be confounded, viz., **Lupus erythematosus**. When that disease affects the fingers alone (the face remaining free), the diagnosis is often very difficult. If scars or the typical mortar-like scales of lupus erythematosus are present, the distinction is easy, but when the disease takes the erythematous form and leaves no scars, one is sometimes driven to wait until the return of warm weather settles the matter.

The two diseases seem to be in some mysterious way related, for the subjects of lupus erythematosus very often suffer from chilblains, while one sometimes meets with a sort of intermediate condition attacking the ears and leading to some destruction of tissue.

TREATMENT.—This is to be directed on lines designed to improve the circulation, both general and local. Cod-liver oil and tonics, such as quinine and iron, should be administered internally. Cold must be avoided; the water for washing must be warm; the skin must be thoroughly dried and warmly clad. Tight boots must be rigorously avoided, and vigorous walking exercise should be taken to promote the circulation. The local applications recommended are legion, but they all have one aim, viz., to stimulate the circulation. *Iodine* is one of the best; the ointment, the tincture, or tinct. iodi (ʒj) with collodion (ʒj), may each be tried. Among other stimulants recommended may be mentioned oil of turpentine, Peruvian balsam, and oil of camphor. Boeck, of Christiania, recommends *ichthyol*,

tannin, resorcin, āā ʒj, aquæ ʒv, to be painted on at night. The application of high-frequency currents is said often to be beneficial.

When ulceration has taken place some simple ointment should be applied. Leistikow gives the following as an old and valuable prescription :—

R Balsam. Peruvian	ʒj
Argent. Nitratis	gr. v
Ung. Spermaceti	ʒj

PRURIGO.

(*Prurire—to itch.*)

As already explained, this disease must be very clearly distinguished from pruritus. In addition to itching, it is characterised by definite lesions in the skin. The cases may be divided into two classes, Prurigo mitis and Prurigo gravis, with certain features, particularly the itching, in common, but with certain distinct differences.

The first variety, which was described by Willan, usually commences in adults. Tiny papules appear, especially on the extensor surfaces of the limbs, more rarely on the trunk. They may be faintly reddened, but usually are of the same colour as the skin. Owing to the patient's scratching they are very frequently surmounted by a scab. The spots may to a certain extent run together, but the surface always remains dry. The disease is fortunately rare, as the prognosis is unfortunately grave, the disease lasting in spite of treatment for years.

Prurigo gravis, or the true prurigo of Hebra, is an affection which commences in infancy, increases during adolescence, and lasts for life. In some respects it closely resembles the previous disease, and has at first the same distribution, but the papules are much more numerous, a fact which is more perceptible to the touch than to the eye. If the hand be passed over the extensor surfaces of the limbs, a sensation of stroking a nutmeg grater is conveyed to the observer. The glands draining the affected regions are always enlarged. This is most marked in the femoral region, where the mass of enlarged glands stands out very prominently. In a fully developed case the patient is anæmic, the skin is dry and pigmented, as in all chronic itching diseases, and the amount of subcutaneous fat is

notably diminished. The flexures of the joints are almost invariably spared.

It was long held that this disease did not occur in this country. The fact is that its relation to urticaria was so generally recognized, that its identity with the Prurigo of continental writers was overlooked. It begins in childhood as urticaria, and the earlier stages are those of Urticaria papulosa, (*q.v.*) If that disease is not cured, it develops into prurigo.

When once the disease is fully established the prognosis is very bad. While great amelioration may take place, cure is almost unknown, and this fact should stimulate the efforts of the physician in his management of obstinate cases of urticaria in children.

When the lesions are examined microscopically, the connection with urticaria is evident. There is œdema of the cutis, and an increase in the cells around the vessels. There are in addition morbid changes in some of the epithelial cells, analogous to those of early vesicle formation; but the process is arrested, the cells dry up and form the little characteristic papule.

TREATMENT.—For the early urticarial cases see “Urticaria.” For the fully developed cases, prolonged bathing, generous diet, cod-liver oil, and rest in bed are all important. As local applications, soft soap, tar, salicylic acid, sulphur, or β -naphthol ointments are each of some value. Regular injections of *pilocarpine* are often followed by considerable improvement. *Epicarín*, a preparation of the Bayer Co., was strongly recommended by Kaposi, and I have used it as a 10 per cent ointment with benefit.

HYDROA.

(*ιδρωπ*—*water*.)

The term Hydroa is an ancient one revived. Its presence in the name of a disease indicates that the eruption is bullous or vesicular.

Dermatitis herpetiformis.—The typical member of this group is the disease known as Dermatitis herpetiformis, or Duhring's disease. Unna calls it Hydroa mitis or gravis. Judging by experience in Edinburgh, this disease is by no means rare. It is certainly more common in men, and no class is exempt from its attacks. It is a chronic affection

of the skin, characterized by regularly recurring, widespread, itching eruptions, the characters of which vary greatly. Sometimes they are erythematous, sometimes vesicular, sometimes bullous, and sometimes erythemato-bullous; and they may vary at different periods in the same patient. The eruptions, whatever be their nature, come out in groups, somewhat suddenly, and have a distinctly symmetrical tendency. Very frequently the scapular regions are specially affected. Although the lesions often look sore enough, the patient's great complaint is itching, and he will tear open vesicles and score his nails through erythematous

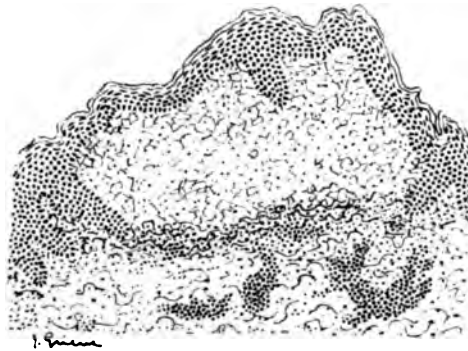


Fig. 9.—Dermatitis herpetiformis. Cover of vesicle is practically the entire epithelial layer. In the vesicle are threads of coagulated fibrin and a few leucocytes. The vessels beneath are sheathed with exudation cells.

patches, in the endeavour to get relief from this distressing symptom. The little vesicles are rather deeper in the skin than one would gather from their clinical appearance, and while it cannot be said that they actually leave scars, traces of their existence persist for a considerable time. When a section is examined under the microscope the reason of this is evident. The outer wall of the vesicle is practically the entire epidermis, (*Fig. 9.*) and that being destroyed, the fact that the result resembles a scar is not surprising. Most chronic itching skin diseases are accompanied by some pigmentation. In this disease it is very marked, often in the form of little rings surrounding the site of each previous vesicle.

ETIOLOGY.—Very little, and nothing definite, is known as to its cause. It often occurs in those who are worn out

with work, but it appears also in working men whose anxieties are few. The sudden, symmetrical development of crops of the eruption suggests that it is in some way dependent on nerve influence, but no definite lesions have been found in any case. Whether the disease is due to the direct influence of the nervous system, or to some poison operating through the vessels, remains unknown, although the latter seems the more probable, and the eosinophilia, which in my experience is invariably present, supports it.

DIAGNOSIS.—It is not easy to diagnose this disease at the first sight of a patient. It is probably most frequently confounded with pemphigus; and, indeed, some eminent observers deny that there is any real distinction between the two diseases. The fact is, pemphigus is exceedingly difficult to define, and some apply the term more loosely than others. The following points for diagnosis may be indicated. In pemphigus the eruption always follows the bullous type, and the bulla is usually larger, and arises *on previously unaffected skin*. In Dermatitis herpetiformis, though it varies in size and may sometimes be large, the bulla is usually small and is surrounded by an erythematous halo, or a group may arise on an erythematous patch. In moderate cases of both diseases there is comparatively little affection of the general health. In severe cases of pemphigus the patient is generally seriously ill; in severe cases of dermatitis herpetiformis usually astonishingly well. In doubtful cases some information may be obtained from an examination of the blood, which in cases of true Dermatitis herpetiformis shows eosinophilia. From erythema multiforme it is distinguished by the intensity of the itching, which, indeed, is more severe than in almost any other disease, and by the more constant occurrence of bullæ and vesicles. These undoubtedly do occur in erythema, but more exceptionally, and usually later in the career of each spot.

PROGNOSIS.—This is good as regards life, if the patient does not commit suicide on account of the mental disturbance brought about by the itching, but with regard to a speedy cure it is most undeniably bad. Cases last almost always for a year or two, and sometimes for a considerable number of years. But the hope of ultimate recovery may generally be extended to the patient.

TREATMENT.—The prolonged course in itself strikingly

indicates the difficulty of treatment and its want of success. Three things are useful : *First* and most important is **Rest**, and freedom from work and worry. A patient who has perhaps suffered from the disease for three years, will very probably be quite free from his eruption after a three weeks' stay in hospital under very little specific treatment. In the better classes a visit to Harrogate or to some rustic spot, with or without special baths, will in most cases be followed by the same satisfactory result. But no sooner does the patient return to his work than the disease breaks out in all its former vigour. The longer the rest, however, the better is the chance of a longer period of freedom.

The *second* remedy is **Arsenic**. As one who is not in the habit of prescribing this drug very freely, my testimony to its value in this disease is unbiassed. I have seen cases which improved steadily, though slowly, under its use, instantly relapse on a stoppage of the drug, and I think it should be used in all cases otherwise suitable. It should be given judiciously (*vide* p. 14). The routine practice of giving 5 minims of Fowler's solution three times a day and appraising the value of the drug from the results, is not fair either to the drug or to the patient.

It should be kept in mind that malignant growths have often been noted to develop in persons who have taken arsenic for several years, and I record here without comment the fact that one of my patients with this disease, who had taken arsenic off and on for six or seven years, succumbed to cancer of the stomach.

The *third* remedy is one which certainly would not suggest itself as a likely one in the disease, but **Sulphur Ointment**, first recommended by Prof. Duhring, is nevertheless of undeniable value. It is to be applied freely, and rubbed well in ; in fact the patient is treated almost as if he had scabies. The mechanical rubbing ruptures the vesicles, and this alone wonderfully relieves the itching, a fact which patients usually find out for themselves, while the sulphur seems to have some mysteriously beneficial influence on the disease.

As is to be expected in such a chronic disease, very many other remedies are occasionally used. Unna applies *ichthyol* externally, and gives 'it' internally. *Carbolic oil* is recommended by Morris, while tar, sublimate, indeed all those remedies which relieve itching, are often applied externally. Brocq gives atropine, and Arning salicylate of

PLATE VIII.



HYDROA GRAVIDARUM.

PLATE IX.



HYDROA VACCINIFORME.

soda, while others give belladonna, nux vomica, quinine, ergot, etc. Of these I believe *quinine* and *nux vomica* to be the best.

Attention to the general health is, of course, essential; indeed, this may be taken for granted in all references to treatment throughout this book. It stands to reason that if there is any disturbance of the general health, its correction will give the patient a better chance of overcoming any disease.

Hydroa gravidarum, also known as **Herpes gestationis**, is a bullous eruption which occurs during pregnancy, and more or less closely resembles Duhring's disease. Indeed Duhring looks upon it as Dermatitis herpetiformis, modified by the pregnant state. In favourable cases the eruption disappears on the termination of the pregnancy, to return should the patient again become pregnant; and this close relationship seems to point to some important difference between the diseases.

Crocker reports a case where after three attacks related to pregnancy, a fourth was apparently evoked by cancer of the cervix. *Plate VIII* is from a photograph kindly lent me by Dr. Arthur Hall of Sheffield, of a case under his care.

Hydroa vacciniforme (*æstivale*).—This is a bullous eruption which appears on the face and ears of children in the situations shown in *Plate IX*. This case was an exceptional one, for the disease has so marked a preference for the male sex, that some authors label it **H. Puerorum**. The lesions are exactly like those of vaccinia; they commence first in spring, last through the summer, and disappear in autumn, to reappear in the following spring. This cycle is repeated year after year, gradually lessening in severity until adolescence is reached, when the disease finally disappears, leaving however, as reminiscences, a number of fine scars. While the disease in the severe form shown in the plate is rare, I am satisfied that milder forms are not uncommon, and are usually sheltered under the umbrella of eczema.

In severe cases it may be necessary to take precautions to protect the skin from the actinic rays, which are evidently responsible for the eruption. In the less marked cases it is perhaps best to explain the nature of the disease to the parents, and tell them not to worry too much about it.

PEMPHIGUS.

(πέμφιξ—a blister.)

Pemphigus (*Plate X*) is not an easy disease to define, or to classify. As already mentioned, it is placed among the neurotic inflammations because the common type of the disease seems to be most closely related to others of that class; the rarer varieties, though they usually present more affinities to the class of the infective inflammations, must defer to the majority.

As the name indicates, Pemphigus is a bullous disease. But not all bullous diseases are Pemphigus, and great confusion has resulted because diseases in which bullæ are present accidentally have been so described. These will be referred to under diagnosis. The generally recognised varieties are: *Pemphigus vulgaris (chronicus)*, *Pemphigus foliaceus*, *Pemphigus acutus*, *Pemphigus neonatorum*, *Pemphigus vegetans*. Of these, Pemphigus vulgaris may be taken as the type of the disease, and as the variety referred to when the word is used alone. A great many of the cases described as *acute* Pemphigus, are obviously cases of bullous Impetigo contagiosa. In their rapid development and their satisfactory progress under simple local treatment, they differ entirely from true Pemphigus. Duhring, however, has observed an acute attack pass on to the more familiar chronic form.

Some of the cases described as *P. neonatorum* are really congenital syphilis; others are due to infection from case to case, and are therefore closely allied to those of acute Pemphigus just described.

To Pemphigus vegetans, Unna altogether denies the right of the name.

When examined microscopically, the bullæ have a close resemblance to those of dermatitis herpetiformis, in that the outer wall of the bulla consists of nearly the whole epithelial layer. The cocci which have been found by Demme and others are found especially in the acute forms, where their presence is easily understood. With every inclination to accept external agents as the causes of disease, one is driven to the opinion that the probable cause of true Pemphigus must be sought for in the nervous system.

Pemphigus vulgaris chronicus is characterized by the appearance on apparently healthy or very slightly reddened skin of blebs or bullæ, varying in size from a pea

PLATE X.



PEMPHIGUS.

to a hen's egg. They may appear on any part of the surface, are at first clear and tense, with no red halo; later they become opaque, flaccid, and surrounded by an inflammatory ring. If the dilated vessels rupture, blood is added to the contents of the bulla (*P. hæmorrhagicus*). As a rule the bullæ rupture and their contents are discharged. In any case healing takes place rapidly without scarring, though usually some redness or discoloration remains. Fresh crops, however, continue to appear, and prolong the disease indefinitely.

Plate X, for which I am indebted to Dr. James Galloway, is from a typical, somewhat severe case. Bullæ in all stages are seen, some recently developed, others flaccid, and others in process of scabbing.

PROGNOSIS.—Some few cases end comparatively soon and favourably. Many, however, go on for months or years, gradually getting worse and eventually as gradually getting better, until at last the patient is freed from his ailment. A certain proportion of cases develop into the foliaceous type, many terminate fatally. Prognosis should therefore always be guarded, and in elderly patients it is always grave. Old people attacked by Pemphigus are very likely to die. Sometimes this is due to exhaustion, but more often it is to be ascribed to the occurrence of the lesions in organs more necessary to life than the skin, such as the intestine, bronchial tubes, etc., while it is frequently the result of some intercurrent disease.

DIAGNOSIS.—Those who have not much experience in the diseases of the skin, are undoubtedly far too ready to call a case Pemphigus. The appearance of bullæ on the skin is not sufficient. Bullæ may develop accidentally in very many diseases, especially in urticaria, erythema, and dermatitis herpetiformis; and even in such common diseases as scabies and impetigo, very well-marked bullæ may be seen. Drug eruptions, too, may take a bullous form, especially when due to the iodides or bromides. They are, however, always comparatively easy to distinguish; in all of them erythema or some other lesion *precedes the development of bullæ*. There is, however, another class of cases which may, for lack of a better name, be distinguished as *septic pemphigus*, where the bullæ develop as in the true disease on apparently normal skin. The illustration (Fig. 10, for which I am indebted to my successor in Dalston, Dr. Doughty), shows a bullous rash in the neighbourhood

of a tuberculous sinus. In such cases, some poison, almost certainly microbic in origin, is evidently responsible for the appearance of the bullæ. Eruptions of this description sometimes spread over a considerable extent of surface, but are not to be regarded as cases of Pemphigus vulgaris, though they are probably nearly related to the so-called *P. acutus*.

TREATMENT.—The fact that the disease appears on apparently healthy skin, should suffice to indicate that external treatment is of comparatively little value.



Fig. 10.—Bullous eruption, "Septic" Pemphigus.

Local treatment is indeed confined to simple surgical procedures. The bullæ should be opened and some simple dressing applied to promote their rapid healing.

General treatment is evidently indicated, but unfortunately the remedies used are distinguished more by their number than by their efficiency.

Mr. Hutchinson says that arsenic is our *sheet anchor* in treatment. It is fortunate that our mercantile marine have more reliable anchors than that furnished by arsenic in this disease. While probably the most trustworthy of a number of very unsatisfactory remedies, it very often fails, and we are driven to vague generalities about keeping up the general health, strengthening the system, etc.

Probably the best thing which can be done for a well-established case of Pemphigus, is to advise change of air and a complete rest from work and worry.

Arsenic should be given judiciously in gradually increasing doses, until we are satisfied that the limit of tolerance has been reached, or that no benefit can be looked for. In such cases a trial may be given to other tonics; strychnine, quinine, or perchloride of mercury will be found useful in some instances, and ichthyol may also be tried. No miracle must be expected: these drugs must have the same patient, prolonged trial as arsenic, for time is in all cases of Pemphigus the great remedy.

Pemphigus foliaceus.—In most cases this develops from Pemphigus vulgaris. I have seen it develop in a case which at one period was undoubtedly dermatitis herpetiformis, and sometimes it arises *de novo*. The eruption generally affects the whole surface of the body, and the presence of large amounts of decomposing excretion gives rise to a peculiar sickly odour. The bullæ vary in size, but are never tense, and indeed it is often difficult to recognize that they are bullæ. The contents are soon discharged, and their outer walls form large flakes upon the skin which, stained with blood, have a certain resemblance to withered leaves, hence the name *foliaceus* (leaf-like). Where the bullæ have been smaller and where the skin beneath is deep red, the appearance produced has been compared to flaky pie-crust.

In this, as in all widespread hyperæmic diseases, the patient is liable to be attacked by pneumonia or bronchitis.

DIAGNOSIS.—At first sight the disease looks like a moist eczema; but eczema is practically never universal, and careful inspection will result in the discovery of some of the large flat bullæ which are pathognomonic of the disease.

PROGNOSIS and TREATMENT.—The only hope for a patient with this variety of the disease is to spend his life in a bath. One patient I saw at intervals during four years, under the care of Dr. Unna, and the remedies tried on him were legion. The most successful were those which aimed at making the skin more resistant to attacks. The patient was treated like a pathological specimen. He was hardened in Muller's fluid, in picric acid, in ink, and in a variety of other reagents, and when I last saw him he was able to be out of his bath for a considerable time each day. Arsenic is not of much value in this variety of the

disease. Most cases terminate fatally, and the prognosis is, therefore, always grave.

Pemphigus vegetans (*Erythema bullosum vegetans*, Unna).—In this disease, which is fortunately very rare, the primary lesion is a little red spot, usually in the genital or axillary regions, or in the neighbourhood of the mouth. The spot enlarges, and blebs appear on the surface. These soon dry up into crusts, and then the fungating, condylomatous growths from which the disease gets its name, develop.

DIAGNOSIS.—The diagnosis from syphilis, which it somewhat resembles, is to be made by the absence of other signs of that disease, and the results of treatment.

It always terminates fatally, and treatment is merely symptomatic.

HERPES.

(PLATES XI AND XII.)

(*ἑρπης*—to creep.)

Whatever may have been the significance of this name when first used in connection with disease, the name as applied to a skin disease now implies two things: (1) Vesicles; (2) Grouping of these. This meaning has gradually developed, and has now by no means so wide an application as formerly. Thus the terms *Herpes iris*, and *H. tonsurans* are usually only mentioned either to fix in students' minds the vesicular element in a disease, or else to show how undesirable is their use. Practically the name is restricted to three diseases: *H. facialis*, *H. genitalis*, and *H. zoster*.

Herpes facialis (*labialis* was too restricted) is to some people an unfortunately familiar condition. It must be clearly distinguished from *H. zoster*, which may appear on the face, as on any other part.

The first symptoms are a little itching, and a feeling of tension, most commonly on the lips or in their immediate neighbourhood. Then there develops a slightly swollen reddish patch, which in a few hours is covered with vesicles. The patches are usually single, but there may be two or three, even at first. When the vesicles have become purulent and are irritated and scratched, secondary lesions may develop. If left alone, the vesicles dry up into a scab, the

PLATE XI.



HERPES ZOSTER

PLATE XII.



HERPES ZOSTER.

process is at an end in a week or ten days, and the patient is free until the next almost inevitable attack.

In those subject to it, any derangement of health, often so trivial as to pass almost unnoticed, is apt to be followed by an outbreak ; and more serious ones, such as severe chills, are almost certain to be so followed. Prolonged exposure to the sun is sometimes responsible for an attack. Some cases are said to recur periodically, but in my experience their number is small ; most of the so-called periodic cases occur in those exceedingly elastic seasons, spring and autumn. In *bona-fide* periodic cases, possible sources of irritation, such as carious teeth or some disease of the nasal mucous membrane, should be carefully sought for.

TREATMENT.—Of this I am unfortunately able to speak from prolonged personal experience. When the vesicles have once developed, nothing can be done except to preserve them from irritation, and, if possible, from rupture. When on the red lips, they are of course almost certain to rupture, but are not so apt to become purulent as are those on the skin. Those who from experience are familiar with the earliest signs of an attack, may do a good deal to restrict it to moderate limits. Bathing the part with very hot water, or the application of collodion, will often check any further development, so also will the less pleasant application of caustic. In the periodic form, when no definite source of irritation can be detected, much benefit is often derived from this latter treatment. If, in each attack, the affected region is painted with Arg. nit. (gr. xx), Spt. æther. nitrosi (3j), the intervals between the attacks are often increased, and a cure may in time be brought about.

Herpes genitalis (a much better name than *H. preputialis*), in many ways closely resembles the preceding disease. It, too, appears after some disturbance of health, especially after the combination of Bacchus and Venus, and it also tends to recur. The method of recurrence, however, is different. While *H. facialis* gets quite well, and remains so for perhaps a year, *H. genitalis* once present is apt to break out on the slightest irritation. Attack may follow on attack, but once fairly away, it is much less apt to return than the eruption on the face.

DIAGNOSIS.—Herpes genitalis is very apt to be confused with certain venereal affections, and there must be very few who have not at least once found that time has corrected their diagnosis.

It most nearly resembles the soft sore, and the points of distinction between the two which in most cases enable one to arrive at a correct diagnosis, are the following: (1) The lesions (vesicles) are multiple, and appear on a reddened, slightly swollen area of skin. Unfortunately, cases are very rarely seen at this early stage, and the moisture and heat of the part have generally led to the conversion of the vesicles into ulcers. The soft sore is usually at first single. (2) The ulcers are usually cleaner, not so overlaid with pus as is the soft sore. (3) There is more itching and burning than in that condition. (4) The lesions are not auto-inoculable. The presence of Ducrey's bacillus is of course proof of the soft sore, but failure to demonstrate it can hardly be regarded as the contrary.

The primary lesion of syphilis may also in exceptional cases closely resemble herpes, though in the majority of such cases it is probable that both diseases are present, the sclerosis being at first undeveloped. Most of the distinctions from the soft sore hold for the more serious condition, but in all cases of *H. genitalis* it is well for the young practitioner to practise caution and await developments. Were the history in such cases to be depended on, much might of course be learned from it, but the greater one's experience the less is one's faith in the history of such cases. Audry very sensibly remarks that every herpes is to be regarded with suspicion which appears for the first time in an adult after coitus.

TREATMENT.—The simple application of powdered boric acid or any other unirritating powder usually suffices. A little salicylic acid (1–2 per cent.) is sometimes of value in obstinate cases, and all irritation of the parts must be avoided for at least six weeks after the disappearance of the eruption.

Herpes zoster is the name round which most of the associations of herpes linger. Zoster means a girdle, and was originally applied to the form of herpes which appears first about the line of the spine, and spreads round the chest in the form of a girdle. The popular name "shingles" is derived from the Latin "*cingulum*," a girdle. It is, however, not confined to the thorax, but may occur anywhere. It usually commences with pain or a sensation of burning, after which there appear in succession crops of little vesicles on an erythematous base. Both the patch and the earlier vesicles enlarge for a day or two, while new ones appear in

advance of the older spots. The linear distribution is not invariable. Sometimes only one, or it may be two patches appear, and run a typical course without any successors. The pain preceding such attacks is often exceptionally severe, and as no "zoster" appears, the true nature of the case is often unrecognized. In two cases under my care, the single patches were seated respectively on the chest, and in the external auditory meatus.

Common shingles is familiar to everyone, and hardly needs illustration. *Plates XI and XII* are illustrations of typical attacks of brachial and cervical zoster. Fig. 11 is a

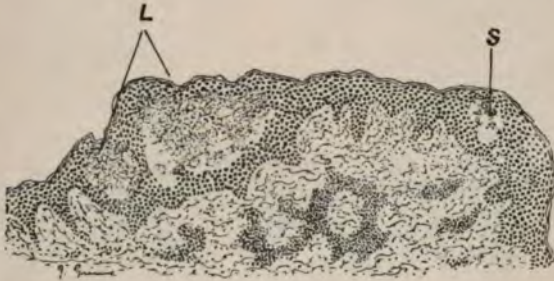


Fig. 11.—H. zoster. Shows large loculated vesicle, *L*, and a smaller single one, *S*. Both contain threads of fibrin, and a few leucocytes. Note the position in the prickle layer, and the infiltration around the vessels in the corium.

section from *Plate XII*. It shows the vesicles in the prickle layer, and their multilocular character. The fact that there is a considerable amount of epidermis below the vesicle explains how such cases heal without scarring. In normal cases the vesicles soon dry up, in a week or ten days the scab is separated, and the patient is recovered. Such is the course in young people; but in those beyond middle life not only is the pain at the commencement usually severe, but it persists in a still severer form after the local manifestation has passed away. Unless from some complication the vesicles have become purulent, there is no resultant scarring, except in supra-orbital herpes, where scarring is the rule, and where there is also usually some conjunctivitis.

ETIOLOGY.—The nature and etiology of the disease have long been a subject of dispute. Before entering on any of the theories, it is well to note certain facts which are almost

universally admitted. There is usually some disturbance of the general health a day or so before the eruption appears, with it may be a little elevation of temperature. One attack of the disease almost certainly protects from subsequent ones, and the disease occurs in small epidemics. The point in dispute is whether the disease is associated etiologically with the nerves or with the blood-vessels. Recently much light has been thrown on the question by the admirable work of Head. He and Dr. Campbell, of Rainhill, wisely decided that as herpes was not a fatal disease, and therefore could not be studied in connection with ordinary *post-mortem* examinations, the best plan

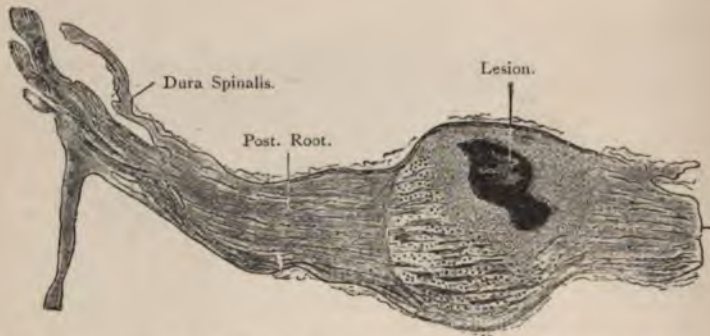


Fig. 12.—Longitudinal Section of 13th Dorsal Ganglion. Death 103 days after eruption first appeared. (By permission of Dr. Head.)

would be to follow out the cases which occurred in institutions, such as asylums. In nineteen cases in which death occurred at periods of from three to seven hundred and ninety days after the appearance of the eruption, they invariably found evidence of some lesion in a posterior spinal ganglion. Usually this lesion was a hæmorrhage, but cancer and injury were also observed (See Fig. 12). The acute changes consist in an extremely acute inflammation, with the exudation of small round deeply-staining cells, extravasation of blood, destruction of the ganglion cells and fibres, and inflammation of the sheath of the ganglion over the inflamed portion, which is mainly in its dorsal aspect. In the peripheral nerves the changes are, as was to be expected, an acute degeneration, followed by a greater or less amount of secondary sclerosis: the degeneration could

be traced to the fine cutaneous twigs in the area of the eruption. They confirmed the epidemic incidence of the disease, and they point out that the cells in the posterior ganglion are comparable to those in the anterior horn of the

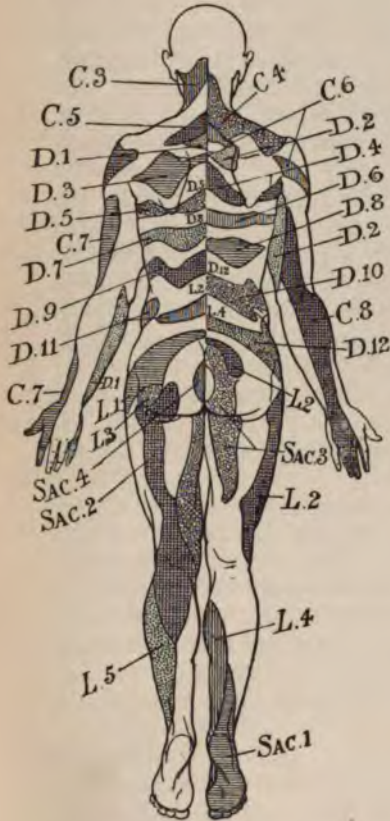


Fig. 13.

Diagrams of the areas served by the nerve fibres passing through the several spinal posterior root ganglia. (By permission of Dr. Head).

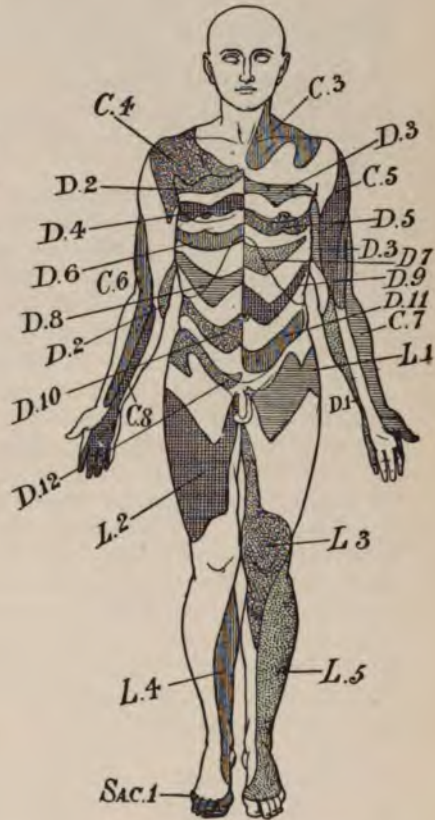


Fig. 14.

spinal cord, and draw what seems a perfectly fair comparison between herpes and acute anterior poliomyelitis.

The distribution of the eruption depends on the distribution of the fibres passing through this ganglion, and not on that of any particular nerve. The body, according to

Head's theory, may be divided into segments, each served by the nerves passing through one ganglion. This very much simplifies the comprehension of the distribution of the eruption, for it was impossible to convince critical students that the eruption of Shingles could be in the distribution of any particular nerve when it obviously crossed several ribs in its course. Through the kindness of Dr. Head I am enabled to reproduce his diagrams showing the different areas. This has been worked out from the examination of sixteen cases, and it will be seen that the areas correspond to the distribution of herpes as ordinarily observed.

His conclusions, which seem to be fully supported by his arguments, are that zoster is an acute specific disease of the nervous system, starting with a prodromal period and accompanied by a slight rise of temperature and some *malaise*. The rash may be taken to represent the physical sign, which most commonly appears on the third or fourth day, and is comparable to the rash of other fevers.

The result of the examination of fluid obtained by lumbar puncture goes to confirm Head's observations, for it invariably shows marked lymphocytosis, which may last for weeks or months after the eruption.

There is one curious omission in Head's work, viz., any reference to the frequency with which Herpes occurs in persons who are taking arsenic. This observation, made long ago by Hutchinson, received ample confirmation during the recent Manchester beer-poisoning epidemic. It is just a little difficult to see why the internal administration of arsenic should favour the outbreak of an acute specific disease of which an invariable feature is a hæmorrhage in a posterior spinal ganglion.

TREATMENT.—As the disease has a distinct course, and a natural tendency to get well, little active treatment is required. Locally, I believe the best application to be Unna's zinc gelatin, which when painted on the spots seems to check their further development. Others recommend free application of some harmless powder, cotton-wool and a bandage. Some advise the application of compresses soaked in an aqueous, alcoholic, or ethereal solution of picric acid, and Russell finds menthol paste useful. The object of all local treatment is simply to prevent the lesions from being ruptured and contaminated with dirt or micro-organisms. The pain is sometimes so severe that hypo-

dermic injections of morphia are required, but usually antipyrine or some similar preparation suffices to make it at least bearable. For the treatment of the persistent neuralgias which are especially liable to occur in elderly people, a prolonged course of tonics is often requisite. Arsenic, phosphorus, iron, bromide of potassium, etc., all have their advocates, and in very obstinate cases the use of electricity is sometimes followed by relief. When ulceration has occurred some simple antiseptic ointment should be applied. In supra-orbital herpes occurring in men, perhaps no special precautions need be adopted, but when the disease occurs in young ladies, efforts should be made to prevent the development of the very considerable scars which usually follow that form of the disease. This is best done by removing the scab, as the amount of pressure which it exercises determines the depth of the resultant scar. The part should then be kept soft by the free application of ointment, so as to give the granulations every chance to replace the loss of substance.

INFECTIVE INFLAMMATIONS.

Strictly speaking, the infectious fevers belong to this class, but since they are not in this country regarded as diseases of the skin, and since, indeed, the skin lesion is in most of them a comparatively unimportant feature, we shall pass them over, and consider only the local infective inflammations of the skin proper.

Among these there are one or two which have the power of generalizing, such as anthrax (splenic fever), glanders, and tuberculosis, but here we shall consider only their local effects.

The infective inflammations of the skin may be divided into those of the epidermis and those of the corium, with one or other of these as the *main* seat of the eruption. The inflammations of the epidermis may be sub-divided according as they are located in the surface epithelium, or in that of glands and follicles of the skin. Those seated in the surface epidermis, the superficial inflammations or cutaneous catarrhs, may be further sub-divided into moist or dry. These terms, while useful clinically, are only relatively distinct, for many catarrhs which are clinically dry are associated with increased moisture of the epidermic cells.

In far too many diseases we are as yet ignorant of the actual infective cause. In others the probable causal relation of some germ to the disease is widely admitted, while there are others which can only be considered infective by analogy. It is not necessary that the cause of a disease must be present at the actual place where signs of irritation are observed microscopically. Parasites of all kinds have the power of exerting their influence at a distance; and be the parasite gross, as in the case of scabies, or minute as in the case of impetigo, the effects produced by its presence may be found in localities remote from where the actual parasite can be detected. Thus, in certain pustular affections of the skin which are clearly inoculable, the cause of the disease will be found in a small colony of germs limited to the apex of a considerable pustule, though the vessels for some distance around show evident signs of disturbance. This long-distance action is known technically as chemiotaxis.

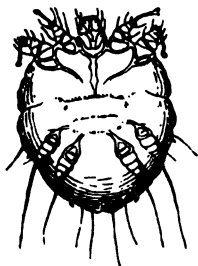


Fig. 15.—*Acarus scabiei*. Female, ventral surface; $\times 75$.

INFLAMMATIONS OF THE SURFACE EPIDERMIS.

SCABIES.

(PLATE XIII.)

This is the most typical of the moist superficial inflammations. The lesions produced are vesicles, which may rupture and discharge fluid, or may develop into pustules or even large bulbæ. If the irritation be kept up, the skin becomes greatly thickened, and fissures are developed. To this severe form the term Norwegian scabies has been applied.

PLATE XIII.



SCABIES.

The advantage of placing this disease at the commencement of the list is that the nature of the processes occurring in the others may be deduced from its well-known phenomena. The *Acarus scabiei*, which is the cause of the disease, is a small insect, just visible to the naked eye, about the size of the perforation of a fine sewing needle. I have followed the majority in giving an illustration of the acarus, by means of which the exact number of its legs may be seen. Such details are no doubt very interesting to the zoologist, but are of little importance to the practical physician. It is



Fig. 16.—Section from a case of Norwegian scabies (diagrammatic). Shows position of the itch mite, the eggs in the oblique burrow, and in other parts of the horny layer; sections of acari and fecal masses (the black granules). There is some cellular infiltration of the tissues beneath.

only necessary to know that the actual disease is produced by the female, which, after impregnation, excavates oblique tunnels in the horny layer of the skin and lays her eggs as she advances. Schiscka says that in exceptional instances the acarus reaches the *rete*, in which case the resultant inflammation is very much greater than usual. The irritation produced gives rise to itching, and also to the exudation of a certain amount of fluid, clinically evident as the vesicle, in the neighbourhood of which the acarus may frequently be found on the skin of those whose attention to cleanliness is not great. The tunnel which the insect excavates is seen as a black line, often, though by no means

invariably, zig-zag. The favourite seats for its ravages are the thin skin on the webs of the fingers (*Plate XIII*), the wrists, the anterior borders of the axillæ, the genitals in males, and the areolæ of the nipples in females. Its general distribution is determined by the patient, being found most marked in those parts which he can most easily reach to scratch. Thus it is only exceptionally found on the back, while the lesions are usually numerous on the abdomen. One important point in its distribution is that the face is very rarely affected unless some complication, *e.g.*, impetigo, be superadded. This is often a valuable assistance in diagnosis in the case of a wide-spread, itching eruption where burrows cannot be identified. The distribution just mentioned refers rather to the disease as seen in the class of patients who attend hospitals and dispensaries. In the better classes, where the hands are more frequently washed, the anterior axillary borders are often the only sites of any evident lesion, while in children the feet are very often as much affected as the hands, and, as in most diseases in children, the tendency for the vesicles to become pustular is very marked. The patient's great complaint is itching, always most troublesome at night. The removal of the clothes before the patient gets into bed seems to be to the acari an intimation that the time for their nightly prowl has arrived.

To those whose opportunities of seeing the disease have been considerable, Scabies is usually easy to diagnose, but the statement that it is always possible to trace the acarus to its lair does not accord with my own experience, and the diagnosis has often to be made simply from the account of the itching (most marked at night), the history of the case, and the distribution of the eruption. In the majority of cases no doubt it is not difficult, and in some cases it is most important to be able to convince the enraged and sceptical patient by demonstrating to him under the microscope the cause of his disease. For this purpose a typical burrow with a fresh vesicle at the end is selected, and a fine needle is passed along it till it penetrates the vesicle. By raising the needle the whole tunnel is opened up, and the acarus may frequently be discovered clinging to the end of the needle.

Left to itself, the disease leads to great thickening of the horny layer, and develops into the so-called Norwegian scabies, in which country this neglected form seems to be most frequent.

TREATMENT.—In this respect also Scabies is an excellent introduction to the infective inflammations of the skin. We know that the disease is produced by a definite cause; our object is to destroy that cause, and having done so to allow the patient to recover. Were we as familiar with the causes of all infective inflammations, and had we as sure a remedy for their destruction as we have for Scabies in sulphur, the treatment of the diseases of the skin would be very much simplified. The method of curing Scabies which is followed in Paris and in some of the London hospitals is on the "while-you-wait" system. The patient is immersed in a bath containing 3 ounces of sulphide of potass to 30 gallons of water. After soaking for some time in the bath, he is thoroughly scrubbed with soft soap and a strong nail brush, special attention being devoted to the more affected parts. After this he reclines for a further period in the bath. On coming out of it he is rough-dried, rubbed with sulphur ointment, and dismissed cured. Perhaps a method more widely followed is to give the patient a daily soaking in a bath, and to rub in sulphur ointment twice daily for three days. There are various modifications of sulphur ointment, but the sulphur is always the essence of hospital treatment. It is important to bear in mind that sulphur itself produces considerable irritation and inflammation of the skin, and patients should be definitely instructed not to continue its application at their own discretion, but only for the number of days the physician has ordered. Three days usually suffice; any itching which is still present at the end of that period is due to the sulphur, and will disappear when the application is stopped. If a patient, on his own initiative, continues to apply and re-apply the sulphur, his last state will be very much worse than his first.

A modification of this method which is often useful, and which is certainly more cleanly than the sulphur ointment method, is the use of a sulphur soap. The patient has a prolonged soaking in a warm bath, and on coming out is lathered freely with sulphur soap. This is well rubbed in, and a couple of baths and four latherings very often suffice for a cure.

Sherwell, of Brooklyn, says that the best effects are got by using sulphur as follows. The patient has the usual bath, and before he goes to bed a teaspoonful of flowers of sulphur is deposited between the sheets, by shaking which the sulphur is distributed all over the bed and comes in contact

with the acari when they are most approachable. Sherwell strongly recommends this treatment, and says it is more useful than any other he has tried.

There are at least two classes of patients who need to be specially considered in treatment. In children the irritation is usually severe, and pustulation is a very prominent feature. For them sulphur ointment, if applied, must be diluted. If there are many so-called "eczematous" complications, the substitution for sulphur of Kaposi's β -naphthol ointment, 40 grs. to the ounce, has the advantage that it calms these complications instead of aggravating them as sulphur often does. In the case of adults where the eczematous complications are very marked, the same plan may be followed, always bearing in mind that, harmless though β -naphthol usually is, cases of poisoning have resulted from its excessive use. Epicarin in a ten per cent ointment is also useful, but it is not so absolutely innocuous as it is said to be.

Another class is made up of those whom one does not wish to inform that they are suffering from such a vulgar disease as itch. If this fact must be concealed, sulphur ointment must be avoided, for it practically carries its diagnosis with it. Useful substitutes for it are stavesacre, stryax, and balsam of Peru. This latter has been lauded as the most cleanly and pleasant way of curing the disease, and the vapour of balsam of Peru is said to be six times as destructive of the acarus as that of sulphur.

Perhaps better than simple sulphur ointment is an application in which certain adjuvants are present, namely, prepared chalk, which aids mechanically in the opening up of the burrows, and soft soap, which helps the penetration of the sulphur along them. Useful formulæ are :—

R	Sulphur Præcip.	ʒij
	Cretæ Præp.	ʒiij
	Saponis mollis et Vaseline	ʒā ʒj

R	Sulph. Præcip.	
	Ol. Fagi	ʒā ʒss
	Saponis Viridis	
	Adipis	ʒā ʒj
	Cretæ Prep.	ʒj

(Wilkinson's Ointment.)

PLATE XIV.



CHEIROPOMPHOLYX.

R. Styracis
Ol. Olivæ aa ʒij

R. Bals. Peru
Sp. Vini aa ʒj
Sig. To be painted on with a brush.

CHEIROPOMPHOLYX.

(POMPHOLYX ; DYSIDROSIS).

(χείρ—the hand ; πομφόλυξ—a bubble ; δύς—difficult ;
ιδρώς—the sweat.)

This is one of the diseases salvaged by Tilbury Fox from the rubbish-heap of eczema. As the name signifies, it consists of an eruption of small vesicles upon the hands, more rarely also on the feet. It is almost invariably symmetrical. There is usually a certain amount of burning and itching. The small vesicles are embedded in the skin, projecting very little above it. They are especially distributed along the borders of the fingers, and have a peculiar, greyish, translucent appearance, which is very aptly compared to boiled sago grains (*see Plate XIV*). After a few days' existence the vesicles dry up and are gradually thrown off with the exfoliating skin. They may rupture accidentally, but they do not usually do so. The disease is found most frequently in those whose hands sweat freely, and is especially common in young women, although not restricted to any age or sex. When an attack has once made its appearance, the patient is liable to a recurrence on any slight disturbance of health. It is, indeed, related of one of the investigators of the disease on his own skin, that, running short of material, he spent a riotous evening with some students in a German beer garden, and was rewarded by what he desired—the appearance of a fresh eruption.

Although the description already given applies to the great majority of cases, there are others in which the disease spreads to the back of the hand, and even up the arm. The vesicles are then larger, and the skin being thinner, they commonly rupture and exude a little fluid. The fact that they do not rupture on the fingers is not due so much to any special peculiarity of the vesicles, as to the character of the skin in this situation. When for instance eczema

develops on the palm of the hand, there are very rarely any vesicles visible at all. The fluid spreads itself through the layers of the skin, and the result is the scaling of large masses. On the back of the hand, on the contrary, the vesicles very rapidly form and readily rupture; the skin at the sides of the fingers being intermediate in thickness between these two, prevents to some extent the development of the vesicles and usually also their rupture.

ETIOLOGY.—Two views are held as to the nature of Cheiropompholyx, one regarding the disease as neurotic in origin, the other as a disease of local origin, in all probability due to micro-organisms. While it is not yet possible definitely to decide between the two, it would appear that hysteria and neuroses do not exclude the possibility of



Fig. 17.—Vesicle in the prickly layer, the epithelial cells pushed aside, and a few leucocytes in the cavity. From a section by Winklereid William; $\times 50$.

infective agents, and that in all probability the latter theory is the correct one. Unna has described a bacillus found in all the cases he has investigated. It grows in the upper border of the vesicle, just where, in carefully prepared sections, a minute, funnel-shaped opening may usually be found.

HISTOLOGY.—It is now definitely accepted that the vesicle is inflammatory in origin, and that Fox was wrong in supposing that it was an accumulation of sweat caused by the blocking of the pore. Fox's clinical instinct was, however, not at fault, for the disease is much more common in those who suffer from profuse sweating of the parts. Sections show the inflammatory character distinctly, and serial sections that the sweat channel is pressed to one side by the vesicle.

PROGNOSIS.—As regards any individual attack the prognosis is good, but the tendency to recurrence is so great that patients should always be warned of its likelihood.

TREATMENT.—Since there are two theories, so there are also two lines of treatment. Those who believe in the neurotic origin of the disease largely neglect local treatment, and administer tonics to their patients. Under this treatment they recover, as do patients who receive no treatment at all. The local treatment, which has proved most satisfactory in my hands, consists in frequent bathing in sublimate solution (1 to 4,000) and the application either of a salicylic ointment or a salicylic dusting powder (2 per cent.) When the attack has subsided, steps should be taken to prevent recurrence. Hyperidrosis should be treated, and the systematic use of resorcin or formalin soap adopted to strengthen the resisting powers of the skin.

When the disease has spread to the hands and arms, a more soothing treatment, such as simple dusting powder or calamine lotion, may be required; for there the disease presents very little difference from an acute vesicular eczema, except that there is not the same tendency for the vesicles once ruptured to continue to discharge.



Fig. 18.—Miliaria. Section of double vesicle evidently developed in the prickle layer and evidently inflammatory. Leucocytes and epithelial cells in the cavity. After Unna; $\times 80$.

MILIARIA.

(*Milium*—a millet seed.)

Miliaria is an affection not very distantly related to cheiropompholyx. It also is associated with excessive sweating, especially when sudden and profuse, but it has no special localization, and is not so prone to recur. It is, however, a true inflammatory disease, with the

development of vesicles in the prickle layer of the epidermis not unlike those of cheiropompholyx.

The vesicles develop on a tiny red papule, and form a white summit to a red cone. The disease is most common on the trunk, may spread over a large area, and may prepare the way for a widespread attack of eczema. It is, naturally, most common in the summer months, and is probably identical with many forms of tropical "prickly heat."

TREATMENT.—Under a mild antiseptic dusting powder (ac. salicyl. 3, talc 97 parts) or the free application of lead and tar lotion, the eruption will soon disappear.

SUDAMINA, or CRYSTALLINA.

(*Sudor—the sweat.*)

Although this disease appears in Unna's classification under another heading, it is so often confused with miliaria, that probably the distinction will be best explained and understood by considering it here. It results from obstruction of the sweat pores, and the consequent damming back of that secretion. The spots only appear when

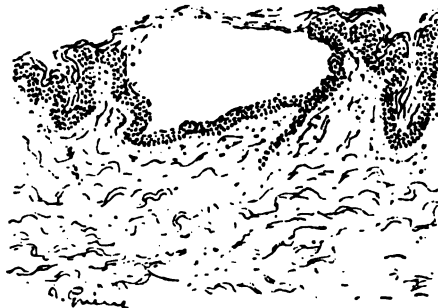


Fig. 19 —Shows the vesicle to consist merely of a distension of the horny layer. At the lower right-hand corner of the vesicle is a portion of a sweat duct. After Unna; x 50.

sweating is excessive, and are most commonly observed in certain fevers, pneumonia, acute rheumatism, typhoid, measles, etc., where the congestion of the skin favours the blocking of the pores. Since only a thin, transparent, horny layer covers the fluid, it looks exactly like a tiny drop on the surface of the skin. The nature of the lesion

PLATE XV.



IMPETIGO CONTAGIOSA.

W. L. & C. 1867.

is very well seen in the accompanying illustration (Fig. 19), which is "after" Unna.

The condition is one which requires no treatment. As the horny layer exfoliates the fluid is discharged, and as the fever diminishes, so does the tendency to the production of fresh lesions.

IMPETIGO CONTAGIOSA.

(*Impeto—to rush on.*)

The term "impetigo" was used by the older authors in a much wider sense than it now is, and the term Impetiginous Eczema still lingers, though it merely indicates the prominence of suppuration and the presence of purulent crusts. The term used alone without any qualifying adjective is generally understood to apply to the disease described by Tilbury Fox as *Impetigo contagiosa* (Plate XV). This is one of the commonest of skin diseases, one of the simplest to diagnose, and one of the easiest to cure. It occurs at all ages, in all classes, and in both sexes, but is commonest amongst the poor. Not infrequently it appears in epidemics, and it is quite common in boy's schools where Rugby football is played, where it goes by the name of "football itch," or "scrum pox."

The first outbreak of the eruption is rarely observed, but as it spreads, all stages may be observed on one patient, and we then see that the disease commences as a minute, reddish spot, which rapidly becomes a vesicle; and, to speak *more Hibernico*, develops into a pustule almost before one has time to observe the vesicular stage. With almost as great rapidity the pustule dries up into a honey-yellow crust, which in a little over twenty-four hours is so loosely adherent to the skin that it appears to have been artificially stuck on. When separated at this stage the skin beneath is merely reddened, but if it is separated before it completely dries, the skin is still moistened with a little pus.

There are several varieties of the disease. That which has just been described is the commonest type, and Unna applies to it the term *Impetigo vulgaris*. In another form the vesicular stage is more prolonged, and the vesicles reach a greater size before becoming pustular. The whole process is therefore slower, and to this variety Unna gives the name *Impetigo serosa*. This is the form which is frequently mistaken for Pemphigus by the inexperienced ;

especially as the lesions present quite a remarkable resemblance to the bullæ of that disease. A third variety is known as *Impetigo circinata* (Plate XVI). It spreads in rings, somewhat resembles, and is often confused with ringworm; but the rapidity of the spread, the pustular nature of all the lesions, the absence of the fungus, and the ease with which it is cured, distinguish it from that disease.

Impetigo is very often associated with the presence of pediculi upon the scalp, and the dermatitis associated with *Pediculosis capitis* is for all practical purposes merely a variety of impetigo contagiosa. (The conditions on the scalp are very different, and the appearances are therefore modified, but when the disease is spread to other parts of the body by the patient's scratching, the lesions developed are identical with those of impetigo contagiosa.)

Bockhart's Impetigo may be described as a succession of little epidermic abscesses; it is pustular from the commencement, and is not difficult to diagnose from the other varieties.

When the disease affects the thicker skin on the hands and fingers, the appearances are much modified, owing to the fact that the skin is thicker, and the fluid does not so readily reach the surface. Our American friends apply to it the descriptive term of "run around," and it is often spoken of as a superficial whitlow.

ETIOLOGY.—That the disease is due to a micrococcus, no one now denies. Unna still holds to his position that it is due to a staphylococcus, which shows peculiarities of growth distinguishing it from the ordinary staphylococci of suppuration, and he is not without followers.

Engman obtained pure cultures of the *S. aureus* from typical cases, and inoculation resulted in the development of clear vesicles from which the staphylococcus was again obtained. The majority of dermatologists, however, follow Sabouraud in attributing the disease to the streptococcus, and it is certain that it may be obtained pure from the early vesicles in at all events a very large proportion of the cases. In the crusts, staphylococci are abundantly present, and it may be that streptococci are no longer to be found. Bockhart's Impetigo is due to the *staphylococcus aureus*.

PROGNOSIS.—Left to itself or improperly treated, the disease will go on indefinitely, inoculating and re-inoculating itself on different parts of the body; while deeper infection of the skin, such as boils, frequently complicate neglected cases.

PLATE XVI.



IMPETIGO CIRCINATA.

1. The first part of the document is a list of names.

2. The second part of the document is a list of names.

TREATMENT.—This is very simple. The method invariably followed in the Royal Infirmary, a method so successful that it is unnecessary to recommend any other, is the following : The scabs are removed by boracic starch poulticing, and the part is dressed with an ointment consisting of 5 grs. of ammoniated mercury to an ounce of vaseline. One would naturally think that more powerful antiseptic ointments would be more rapidly efficacious, but experience shows the contrary. Even an ointment of 10 grs. to the ounce is not so successful. The application of too strong an ointment is one of the mistakes often made in treatment ; another common one is the application of the ointment upon the top of the crusts.

PEDICULOSIS CAPITIS.

The lesions produced by the presence in the hair of the scalp of the *Pediculus capitis* are to all intents and purposes those of contagious Impetigo. There are, however, certain differences by which the experienced eye can divine the presence of the pediculus without seeing either it or its ova.

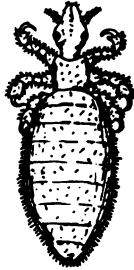


Fig. 20.—*Pediculus capitis* ; x 40.



Fig. 21.—Ovum of the *Pediculus capitis* or "nit," attached by a sheath to the hair ; x 50.

The crusts are not so discrete as those in Impetigo contagiosa, they cover continuously considerable areas of the scalp, and there is usually more exudation, more moisture, more "eczema." Further, at least usually, the crusts have a peculiar *dirty, greenish colour* which is practically pathognomonic of pediculosis.

The disease is commonest in the children of the poor, but as in all parasitic affections, rank offers no protection, and the head of any child with Impetigo Contagiosa should always be examined. It is almost invariably *limited* to the *back* of the head. Very little disease will be found in front of a line drawn from ear to ear across the vertex. Usually the parasite (Fig. 20) is very much in evidence; but if not, careful examination will discover the ova clinging to the hairs near their roots. The irritation in the scalp often leads to swelling and breaking down of the glands at the nape of the neck, and considerable abscesses may form.

TREATMENT.—*Causa sublata, tollitur effectus* is not always true, certainly not in many diseases of the skin; but in this one, at least, the proverb holds. The cases where the destruction of the cause is not followed by the rapid disappearance of the disease are very few in number.

Often enough the irritation looks so great that the inexperienced hesitate to follow the somewhat heroic treatment which they would at once recommend in milder cases; but in the vast majority of cases the results will be so satisfactory as to give confidence on future occasions.

There are many applications which are certain death to the pediculus and its ova. The one which is invariably used in the Royal Infirmary is *common paraffin oil*. The patient is directed to anoint the head freely, to cover it with rags soaked in the oil, and to wear over all an oiled silk bathing cap. A second soaking follows twelve hours later, and after twelve more the scalp is thoroughly washed with soap and water. This may at first appear to increase the irritation, but that very soon dies down and the case is cured. The method also removes some of the less firmly adherent "nits" from the hair, but for the rest other means must be used. Probably the old-fashioned tooth comb is the best of all. Lotions of acetic acid (1-4) are useful in loosening the binding cement which fixes the nits to the hair. If the irritation is so great that this method is really inapplicable (although, as has been already indicated, it may be used where there is considerable irritation), an ointment of ammoniated mercury (grs. v-℥j) may be used for a day or two until it has subsided, and then the paraffin method may be employed. With regard to the glands, incisions should only be made when *urgently* indicated. When the irritation is removed considerable swellings disappear in a surprisingly rapid manner.

PEDICULOSIS PUBIS.

The *Pediculus pubis*, or crab louse (Fig. 22) differs somewhat from its cousin the *Pediculus capitis*. It affects the regions of the stronger hairs, and is found in the genital regions, the axillæ, and on the eyebrows.

On the eyebrows the lesions tend to be impetiginous, but in the other situations the irritation of the parasite gives rise to a drier form of dermatitis.

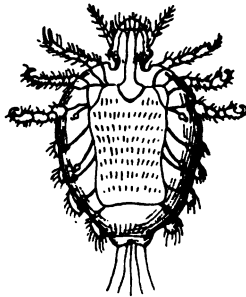


Fig. 22.—*Pediculus pubis*: x 50.

Itching is the great complaint of patients thus affected, and there is often very little to be detected on examination. Patches of greyish discolouration are sometimes seen on the skin, due to a pigment produced by the insect. Reddish deposits of fæcal matter on the hairs are noted by Erasmus Wilson, and the ova are seen attached to the hairs as on the head.

TREATMENT.—Some form of mercurial ointment is usually prescribed. White precipitate is excellent, red precipitate had the approval of the poet Burns, and ordinary mercurial blue ointment is the usual chemists' prescription. As in scabies, care should be taken that the disease is not over-treated, and a dermatitis, due to the application, substituted for the disease.

ECTHYMA.

(*ἐκθύμα*—a *pustule*.)

Ecthyma is an aggravated form of *Impetigo contagiosa*. It is due to the implantation and growth of the streptococcus in the skin, and its presence invariably indicates

that the general health of the sufferer is below par. It most frequently occurs in those who are out of work and insufficiently fed.

The lesions are most common upon the legs. They are deeper than those of *Impetigo contagiosa*, and are usually surrounded by an angry red halo. When the scab is removed an actual ulcer is often disclosed. Fig. 23 is from a typical case in a child.



Fig. 23.—Ecthyma.

TREATMENT.—Locally some mild antiseptic ointment should be applied, but no local treatment will be successful unless the general condition of the patient is restored by the administration of good food, abundance of vegetables, and some form of iron.

ECZEMA.

(ἐκξέω—to boil over.)

"*Eczema is the term commonly applied to any wet or scaly inflammation of the skin, of the cause or nature of which the observer is ignorant.*" The word Eczema is almost literally translated by the word eruption (bursting out or boiling over), and it is clearly open to any one to call any rash upon the skin "an eruption." The skin responds to irritation, just as do other organs, by hyperæmia and exudation, and according to the irritant one or other of these, or their results, may predominate. To those who know nothing, or next to nothing, of the diseases of the skin, most eruptions are eczema; but as knowledge increases one is able to identify in certain cases either a definite recognizable cause, or a definite sequence of events which enables him to arrange certain diseases under more instructive headings. This is well illustrated in the case of such common diseases as scabies and ringworm, particularly that form of the latter disease which affects the groins, and which is still often called Eczema marginatum. These diseases in appearance resemble "Eczema," and it is only the identification of their cause which at once justifies their separation from that chaotic conglomeration. Many chemical irritants produce inflammations of the skin accompanied by moisture and scaling, which some indeed still regard as eczema. To most, however, the recognition of a definite cause is sufficient to separate them from that disease. In a great proportion of cases we are still ignorant of the causes, and until knowledge is further advanced it is necessary to describe eczema, although the number of forms and varieties which must be considered more than suggest that we are dealing with more than one disease.* Eczema is a name which is a cloak for ignorance, and we should endeavour to follow Tilbury Fox and Unna in rescuing from under its shelter groups of cases which follow

* Each successive course of lectures convinces me more and more of the accuracy of my definition, and it was with much interest that I read over the initials of Dr. Nevins Hyde in the January (1904) number of the *Journal of Cutaneous Diseases* such sentences as these "Is it not clear that the word Eczema . . . has outworn its usefulness"? "The word Eczema in the mouth of the expert has become a feature of the man in the street, of the advertiser, of the charlatan." "The doom of the word is probably written. It will survive where it belongs, and with no greater repute than attaches in general to the out-worn and discredited."

definite lines. We must, however, accept the present position, and class together all the remaining forms of inflammation provisionally as eczema.

In this collection of inflammations, then, we recognize certain forms of eruption which are constantly repeated. The exudation may be comparatively small in amount and may be localized at certain spots. The skin is then raised in a little elevation to which the term *papule* is applied. Should the exudation be more abundant some of it makes its way to the surface, raises the horny layer over it, and is evident as a *vesicle* shining through it. If the exudation is greater in amount the horny layer is ruptured and the fluid continues to exude upon the surface, making a weeping eczema. This fluid forms an admirable breeding ground for micro-organisms, and these attract leucocytes from the vessels, with the result that a *sero-purulent* crust is formed upon the surface. In some cases the irritation leads to an excessive dilatation of the blood-vessels. The skin becomes abnormally red, and to this form and variety the term of *Eczema rubrum* is applied.

These forms are used in our present state of insufficient knowledge as a convenient means of classification, and Duhring has happily called them "Lesional varieties of Eczema"; while he has further divided them into "Regional varieties," according to the part of the body affected.

ETIOLOGY.—If it be admitted that the term "eczema" probably includes more than one disease, it is very evident that it is impossible to lay down any laws about its cause. Many theories, several of them contradictory, have been put forward, their very multiplicity and contradiction showing how evident it is that we are dealing with a collection of different conditions. Many incline to the belief that eczema is parasitic, and the similarity between "eczema" and the traumatic inflammations of known external origin, suggests the local action of some irritant; and there is no more likely source of such irritation than the growth on the surface of the skin of micro-organisms. Indeed, among much difference of opinion at the last International Congress of Dermatology, there was quite remarkable unanimity as to the effect of organisms in, at all events, aggravating eczema.

That pathogenic organisms are found as harmless saprophytes on healthy skin is well known, but that does not

prevent their assuming a parasitic rôle if circumstances are favourable. Is not the diphtheria bacillus frequently found in the throats of persons apparently in perfect health? And have not Sabouraud's researches, almost everywhere confirmed, shown us that the streptococcus, with its widespread power for evil, may produce so trivial a disease as *Impetigo contagiosa*?

The organisms most commonly found are the *Staphylococcus aureus* and *albus*, and the coccus first described by Welch as the *S. epidermidis albus*. That the growth of these organisms on an inflamed surface has a very important effect in aggravating the disease is admitted by practically all, but that any of them is to be looked upon definitely as the cause of eczema, is a position that only a few enthusiasts occupy.

The *S. epidermidis albus* is apparently identical with the morococcus which Unna claims as the cause of certain forms of eczema, and with the white coccus to which Sabouraud ascribes the scaling which is so frequent an accompaniment of eczema.

Bockhart, in a series of interesting experiments with cultures and toxins of the *Staph. aureus*, found that while the inoculation of the cultures produced abscesses, the toxins produced eruptions of a papular and vesicular nature, such as are generally associated with eczema, provided that the skin was irritated prior to the inoculation.

The French school maintains that the primary vesicle of eczema is invariably amicrobic, but admits the importance of organisms as aggravating causes.

There are thus three views in regard to germs: one regarding them as the direct cause of the disease, another as the exciting cause, while the third considers that they merely aggravate existing eruptions.

We are familiar with a number of predisposing causes which, at all events, have some influence on the development and duration of an attack. Disorders of digestion or assimilation are very generally believed to have an important bearing on both. Many go too far, and even when no evidence of such disorder can be detected, put their patients on a special diet, and order an acid, alkaline, or diuretic mixture. If any such disorder is present, its cure will undoubtedly hasten the disappearance of the eczema, but the only varieties of the disease where digestive disorders will rarely be enquired for in vain, are those in the neighbourhood of the mouth and anus.

Constipation is frequently present, and the proper regulation of the bowels is as desirable in patients with eczema as in any other individual.

Anæmia is undoubtedly a frequent predisposing cause, and it is impossible to overlook the action of the nervous system. The sudden symmetrical outbreak of certain forms, their occurrence at certain periods, *e.g.*, the menopause, and their occasional appearance immediately in relation to some mental or financial emotion, make it impossible to deny to the nervous system an important etiological significance in eczema. Actual changes in the structure of the nerves have been noted by a few favoured observers, but as they have been repeatedly sought for in vain by competent histologists, the claim that all eczema is dependent upon nerve disturbance is clearly absurd.

Eczema often develops without any premonitory symptoms, but there may be some *malaise* and a feeling of local heat before the actual appearance of the eruption. It may occur in those who are manifestly below par, or its victims may be in the rudest health. It may appear primarily in almost any of the lesional varieties, or it may develop into any of these through some previous one. Thus an eczema may be vesicular at its first appearance, or erythema and papules may precede the vesicles.

DIAGNOSIS.—Any acute or chronic catarrhal inflammation of the skin of which the nature or cause is unknown, may be diagnosed as eczema. The greater the observer's experience, the more diseases can he differentiate from eczema, and the fewer remain to be so-called.

PROGNOSIS.—Every case of eczema is curable. The time required may be long, and a trial of many remedies necessary, but if the treatment be carried out on sound principles, the ultimate result is always satisfactory.

HISTO-PATHOLOGY.—A knowledge of this is of great value in the comprehension of the different varieties and of their relationship to one another.

In giving a brief *résumé* of Unna's observations, many of which I have confirmed, it is only right to point out that he very nearly goes the length of claiming all eczemas as seborrhœic. I am not, however, prepared to follow him so far. I recognize to the full the very great benefit he has conferred on medicine by his work on Seborrhœa, but I think it is to be regretted that he should have used the

word "eczema" in connection with it. Seborrhœic dermatitis is a form of inflammation of the skin, and until Unna showed us its special peculiarities, remained one of the many inflammations classed together as "eczema." The histological appearances of all these inflammations are very similar, and much more research will be required before we are in a position to recognize the minor differences between different inflammations of the skin under the microscope.

In the epithelium three main changes are observed, and the lesional variety of the eczema depends on which of these predominates.

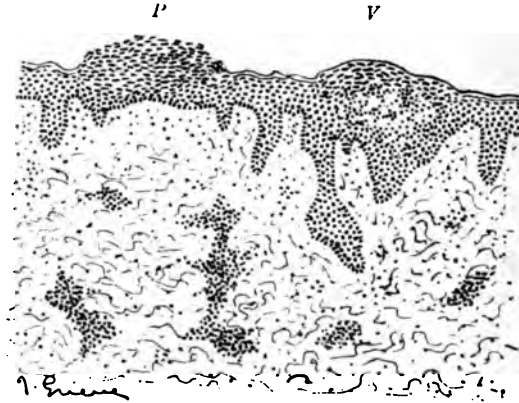


Fig. 24.—Eczema. The scaly spot, *P*, shows parakeratosis; at *V* a vesicle has formed in the prickle layer, whose cells show irregular cornification (parakeratosis and proliferation/acanthosis). Deep changes are shown by the infiltration around the vessels; $\times 50$

The most important is *parakeratosis*, or irregular cornification, which is a marked feature of every variety of eczema. It is essentially a parenchymatous œdema, an intracellular œdema, a condition of excessive moisture of the epithelial cells. Instead of going through the regular process of cornification, with the deposition of keratohyalin granules and the conversion into dry anuclear horny cells, the prickle cells remain moist in their interiors, and though they undergo a sort of mechanical drying process externally, they preserve their nuclei right up to the surface. Being moister, they are naturally more adherent, and are cast off in masses as scales instead of, as normally, singly and insensibly. This factor predominates in the scaly eczemas.

The second change is *acanthosis* (*ἀκανθα*—a spur, prickle), proliferation of the prickle cells. Mitoses are much more numerous and more widespread than normal, and consequently the epithelial layer is increased in size. Acanthosis is most marked in some papular forms of the disease.

The third characteristic is due to an extension of the same cause which produces the first, viz., an excess of moisture. The fluid is not only in, but between, the cells; they are separated from one another, and if the fluid be present in sufficient amount, a vesicle is evident clinically. Unna calls this *spongy metamorphosis*. Some degree of this is always present. The older writers who held by the view that eczema was always a moist disease, have unwittingly proved to be verbally correct, though often there is no clinical evidence of moisture. The more marked it is, the more evident is the vesicular character.

There are also changes in the deeper tissues, which give character to certain varieties of the disease. Dilatation of the vessels is very prominent when the eczema is erythematous, exudation when œdematous, and actual proliferation of the connective tissue is found in certain chronic infiltrated conditions.

With all these different phenomena present in varying degree, now one, now another, now a combination of two predominating, it is abundantly evident that the clinical pictures presented are almost kaleidoscopic in their characters.

Before entering on the description of the several varieties of the disease, it will be well to consider those general rules of treatment which are more or less applicable to all.

GENERAL TREATMENT OF ECZEMA.

Eczema is so varied in its forms, and in its effects on different parts of the body, that it is beyond possibility to indicate any definite line of treatment for the disease as a whole. Certain broad principles may, however, be laid down, though the most steadfast of these are but of a negative character.

First and foremost, the idea must be thoroughly grasped that there is **no specific for eczema**; there is no medicine which, administered internally or applied externally, can be confidently expected to cure the disease.

The drugs against which the previous sentence is mainly

directed are *arsenic* and *zinc ointment*, regarding which a far too wide tradition still lingers that they, and practically they only, are *the* treatment for all kinds and varieties of the disease. Of recent years ichthyol has somewhat invaded their preserves, and is largely ordered in the same haphazard method.

Zinc ointment is in most cases at least harmless, and both it and arsenic have their uses in suitable cases ; but arsenic is very far from harmless ; indeed, it is hardly too much to say that its invariable administration in all forms of eczema is calculated to do more harm than good. The only cases in which it is useful are the exceedingly dry, chronic, scaly eczemas. Wherever vesicles are present, or even in their absence where the skin is inflamed and œdematous, it is almost certain to aggravate the condition. Antimonial wine in small and repeated doses is sometimes useful when the skin is greatly inflamed. Salicylate of soda is of some value in acute cases, but the internal treatment of eczema as eczema is of very minor importance ; if other complicating disorders are present, they are to be treated *secundum artem*.

External treatment consists in soothing the inflamed cases, stimulating the chronic ones, and where there is reason to suppose that parasitic agents are present, in applying suitable antiseptics. Our treatment is plainly symptomatic ; we endeavour to ease itching, to soak up discharge, to supply deficient fat, to diminish hyperæmia ; in short to put the skin at rest, so as to allow nature to perform the cure.

The questions of *diet*, *alcohol*, *water*, *climate*, etc., all demand consideration.

Diet was for a time to all, and still is to many, all-important in the treatment of eczema, and old eczema patients can show pages filled with the most elaborate and careful directions in regard to it.

Common rumour incorrectly attributes to the German school an utter disregard of what goes into the body. Certainly the German diet differs very remarkably from the British, and the *menu* of a dinner even in a skin clinic in Germany is enough to make our dermatological ancestors turn in their graves. Pork, uncooked smoked fish, raw ham, and mixtures of jam and potatoes, are not the sort of diet they ordered to their patients. Yet the patients do well ; they recover as quickly as elsewhere ; and when

they go back to the world do not require special consideration in the domestic circle.

The articles of diet which do harm in eczema are those which produce *any increased flow of blood to the skin*, and a consequent increase of itching, which leads to scratching, and the initiation by this means of a *circulus vitiosus*. What these articles are must be found out by each patient for himself, and eliminated from his dietary. "What is one man's meat is another man's poison." Still certain articles which are harmful in the great majority of cases, such as curries, pickles, and spices and condiments generally, should be avoided.

Porridge is regarded by many as undesirable for eczematous patients. Cooked as it too often is in England, it is undoubtedly as bad for eczematous patients as it is unpalatable to all, but if the meal be thoroughly boiled, any little harm which the irritation of the particles of husk may do is more than counterbalanced by its value as a light and nutritious food. Probably re-cooked foods are undesirable, and where expense is of no consideration it is well to avoid them.

It is superfluous here to present a list of diets for dyspeptics who may also be sufferers from eczema. It is likely enough that their eczema is aggravated, and almost certain that it is prevented from complete cure by the dyspepsia; but that must be treated as a disease of the stomach and not of the skin. The very careful search for symptoms of indigestion to account for every eczema, is occasionally successful in developing the notion of dyspepsia in a previously healthy patient. In acute inflammations of the skin, if the temperature is raised (though this very rarely happens), the diet should be suited to the febrile condition, and in any case when the eruption is acute the diet should be light.

Alcohol.—Seeing that alcohol possesses in a very eminent degree that power of stimulating the cutaneous circulation and increasing itching which has already been referred to, it is evidently desirable that alcohol should be avoided altogether. Many cases are delayed, if not prevented from healing by even its moderate use, an observation which can readily be confirmed by cutting it off. All eczemas are not equally injured by it; the papular and moist red eczemas are most unfavourably influenced, the dry, scaly forms least. With reference to the form of

alcohol which should be taken if its use be unavoidable, the selection depends more on the general condition than on the disease of the skin. So far as the skin is concerned, it is the alcohol which does harm, not those other varying constituents which make up beer, whisky, claret, sherry, etc., and if the patient will drink he should confine himself to those beverages which contain least.

As regards tea I cannot altogether agree with those who attribute such a power of evil to "the cup that cheers." Too much tea, especially badly made tea, is bad for everyone, but well-made tea in moderation does no more harm to persons suffering from cutaneous diseases than it does to healthy people. If drunk in quantities and *too hot* it has the same bad effect in flushing the skin as alcohol and spices. Coffee has the reputation of sometimes increasing itching, in which case it should be avoided, while cocoa, except when too hot, is harmless.

Water.—Mineral waters which contain a small amount of some indifferent alkaline salt are probably innocent enough, but the custom of drinking large quantities of strongly alkaline water is not one to be advised. Medicated waters, such as Levico, are hardly to be looked upon as drinks, but rather as medicines.

A patient will sometimes relate with an air of pride on exhibiting an eczematous leg, that it has "not had water near it" for two months. The limb usually bears all the marks of this, and the phrase is quoted, since it illustrates what is still a very common practice. The effect of water is, however, not altogether bad, and a good deal of its evil repute is owing to the fact that many waters contain ingredients which are irritating to any skin, and particularly so to the eczematous one. It is well known in one of our border towns that eczema of the hands, which is exceedingly common there, will disappear when rain-water is used instead of the town supply. Still the fact remains that even rain or distilled water, if used too frequently, and if the parts are not sufficiently dried, to some extent aggravates the disease. The question of water really depends on its proper use, and the little irritation caused by washing a limb must surely be more than counterbalanced by the removal of the accumulated secretions, excretions, and organisms. After the use of water the denuded epidermis tends to dry and crack, and it is therefore essential to restore artificially some of the natural lubricant which has been removed.

The fact that water enters into the composition of many of the applications for the skin (lotions, starch poultices, and cold cream) surely shows that in itself it is not so terribly injurious.

Matters are different when there is added to the water its usual accompaniment, namely, soap (see p. 27). The alkali set free on the addition of water to every soap, and the impure fats of cheap ones, irritate the inflamed skin. In the case of eczema, soap should be used only when absolutely necessary. A handful of oatmeal will aid in cleansing the hands, and will at the same time to some extent soften the water. After the use of soap the necessity of supplying to the skin its lost lubricant is, of course, greater.

Climate.—It is no very difficult matter to lay down rules with regard to climate in eczema. With one exception, all cases of eczema are aggravated by residence on the north and east coasts, where the particles of brine conveyed by the wind have a constantly irritating effect on the disease. The exception is in cases of eczema occurring in tuberculous subjects, in whom the benefit to the general health is often so great that the increasing strength of the patient suffices to throw off the eczema in spite of the evil influence of the brine. The other coasts, if their prevailing winds are from the sea, are also injurious, but the milder winds which are supposed to come from the south and west are usually less brine-laden than those from the other directions.

In tropical regions the activity of the sweat glands commonly tends to aggravate the moister forms of the disease.

Occupation.—This, of course, has a great bearing on many cases. Most of the "occupation" eczemas, however, come under the category of the traumatic inflammations; for they are begun, continued, and aggravated by the repeated application of the irritant, although it must be admitted that the occupation is sometimes apparently responsible for an inflammation on the skin, which lasts long after all traces of the irritant must be supposed to have passed away.

Exercise.—Sufficient of this to keep the whole system in good order is, of course, most desirable. Generally speaking, however, it is best that patients with eczema should not take any violent exercise which promotes perspiration, for this tends to aggravate any existing eruption. Cycling should be indulged in only in moderation. If

profuse sweating is induced the eczema will certainly be aggravated, but if the sufferer gets into good condition little if any harm will result.

LESIONAL VARIETIES.

The lesional varieties are practically the various stages of the older writers, but since every case does not go through all the stages, the new term is a distinct improvement.

The eruption of eczema is usually multiform. The terms used refer to the prevailing character of the eruption, and do not exclude the possibility that a few papules and vesicles may be present, for instance, in erythematous eczema, or that in the papular form a patch may be infiltrated, weeping, or fissured.

Erythematous Eczema.—Here the skin is reddened and swollen, where the subcutaneous tissues are loose (*e.g.*, the eyelids, scrotum) intensely so, and the patient complains much of a burning sensation. It is most common on the face, and is not infrequently mistaken for erysipelas. From that disease it should be distinguished by: (1) Its less brawny hardness; (2) Its less abrupt border; (3) The absence of bullæ; and (4) The very slight rise of temperature. In the diagnosis of a doubtful case *all* these differences must be taken into account. Thus a bulla may be accidentally present, but if the infiltration be slight, the border not abrupt, and the temperature normal, its occurrence may be ignored. This variety usually terminates in scaling. If it occur on the scrotum, when the adjacent skin of the thigh is generally also affected, it tends to become moist. As a rule acute, it occasionally assumes a chronic course (see p. 118), and if not completely cured, relapses are certain to occur. Many cases of erythematous eczema of the face are due to the action of some irritant. As an example I may quote a case seen with a former pupil, to whom the credit of the discovery is altogether due. The patient was a nurse who had had repeated attacks, always commencing when she went to a new case. We discussed water, climate, antiseptics all in vain, but eventually it was discovered that, anxious to look her best with the new patients, she invariably washed her hair, and applied some beautifying application to it before setting out. There were no more attacks. Quite recently I met with a similar experience. while in another case we eventually discovered that the

attacks always followed on shaving by a particular barber.

TREATMENT.—Greasy applications should, as a rule, be avoided. In slight cases *linimentum exsiccans* or *gelanthum* (p. 22) are generally useful. Some prefer lotions containing bland powders, *e.g.* :—

R	Ac. Boric	ʒi
	Calamine	ʒiij
	Zinci Oxidi	ʒij
	Glycerini	ʒij
	Aquam ad	ʒvj

or simple dusting powders, such as carbonate of magnesia, starch, or talc. In the chronic form more active remedies are required. They should be very cautiously applied in the first instance, as this variety is often very intolerant of treatment. Tar, at first very weak (ʒj-Ōj), is often useful.

Œdematous Eczema.—This variety is rarely if ever seen alone. It may complicate the erythematous variety, but the term is most applicable to a form which occurs in patches, particularly on the upper arm and trunk, where a little area of skin about the size of a sixpence, is raised above the surrounding level by the exudation of serum into the corium. Here and there the fluid reaches the surface in little drops, which usually rapidly coagulate to form tiny fibrinous crusts.

Such forms sometimes resemble mild cases of dermatitis herpetiformis. That disease is usually associated with much more itching, and the appearance of repeated crops of patches generally settles the diagnosis. The superficial changes in this form are comparatively slight: the main factor is the exudation of fluid into the deeper tissues, only a part of which makes its way to the surface.

TREATMENT.—The avoidance of grease is even more important in this than in the erythematous variety, and dusting powders or lotions similar to those recommended for that form are the best remedies.

Papular Eczema.—Two varieties must be distinguished. We have first the acute inflammatory papule, which is merely a stage in the development of the vesicle, and the chronic papule, which is due to epithelial growth (acanthosis). The acute form is found most frequently on the flexor surfaces of both arms and the back of the neck,

appears suddenly, and is accompanied by much burning and itching. It does not necessarily go on to the development of vesicles; it may be arrested at the papular stage by appropriate treatment. The more chronic form is especially apt to occur on the limbs. The papules may be flattened or acuminate, their colour varies from a pale pink to a deep red, and their distribution is irregular. Often as the result of scratching, their apices are surmounted by hæmorrhagic crusts, and here and there more or less fully formed vesicles may be seen. Itching is always a prominent feature, and this is probably the most difficult form of eczema to cure.

The disease which it most resembles is *lichen planus*. Indeed, this variety of eczema was long known as *lichen simplex*. The shape, colour, and distribution of the papules do not correspond with those of lichen (*q.v.*), and the presence here and there of vesicles usually makes the diagnosis a matter of no great difficulty. It may also be confused with prurigo, but in that disease there is a history of development in infancy, and invariably enlargement of the femoral glands.

TREATMENT.—The acute form is best treated by lead and tar lotion, or by a dusting powder, the use of which may prevent the further development of the eczema. Chronic papular eczema is one of the most difficult forms of the disease to treat. Although chronic, it is sometimes resentful to treatment, and ointments should be very cautiously used, and only to a small area in the first instance. Lassar's paste, with 10 grains of salicylic acid to the ounce, is sometimes useful. The proportion of salicylic acid may be gradually increased. Nargol, an organic silver combination, is a valuable alternative to salicylic acid. In many cases it will be found impossible to use active remedies, and the application of weak tarry lotions or of black wash will be followed by steady, though slow, improvement. If the itching is very severe, zinc gelatin usually gives relief.

It is important to carefully enquire into the general health and to rectify any disorder, though one cannot hope for much from direct internal treatment. Arsenic in particular should be avoided, as it sometimes converts papular into vesicular eczema.

Vesicular Eczema.—Acute uncomplicated vesicular eczema is not a common disease. It develops rapidly, and its general characters suggest the action of some unknown

irritant. At first the skin is swollen and red, then the surface becomes dotted with papules, which are soon surmounted by vesicles. These rupture, and fluid continues to exude from the broken surface. In some cases the exudation soon dries up, and the process is rapidly terminated, but in others fresh crops come out, the exudation coagulates on the surface, and forms fibrinous crusts, the presence of which further aggravates the condition. These crusts soon swarm with organisms, the exudation becomes purulent, and thus are formed the *purulent* and *crusted* varieties of the disease. If the discharge is very profuse, the crusts are washed off by it, and there develops the variety known as *eczema madidans* (Latin root *madeo*—wet or overflowing). In some cases, possibly owing to the nature of the irritant, the blood-vessels dilate more than usual and the part looks intensely red, hence the term *eczema rubrum*.

Plate XVII represents an acute eczema of the arm. The patient was a baker, and when the painting was made the eruption had been present about a week. Papules, vesicles, crusts, and excoriations are all shown. The eruption was probably in the first instance due to some irritant, but although there was no further exposure the eruption lasted for over two months.

TREATMENT.—Acute vesicular eczema is best treated by the application of lotions or powders. It is an advantage that the powders should be made mildly antiseptic, especially if the crusts are partly purulent, by the addition of a little boric or salicylic acid.* If the weeping continues, care must be taken that the discharge does not accumulate on the surface, and by its presence give rise to further irritation. As a rule it is desirable to intermit at intervals the use of lotions or powders. An occasional starch poultice (p. 19), or the application of strips of lint soaked in oil, may be required to remove the crusts. As the discharge lessens, Lassar's, or a paste composed of equal parts of carbonate of magnesia and vaseline, may be applied. As pointed out in the section on general treatment, pastes do not dam up the excretions so much as ointments. They should, however, only be applied when the discharge has

* It should be noted that in some individuals the application of boric acid causes intense pain, and it is sometimes necessary to omit it even from the starch poultice.

PLATE XVII.



nearly ceased, in order to promote the healthy cornification of the surface, and to hasten the removal of inflammatory products from the corium. In that stage to which the term "eczema madidans" is applied, where drops of fluid are exuding freely all over the surface, astringent lotions are most suitable. Black wash or a weak solution of the acetate of lead should be applied on lint. The excessive moisture is accompanied by a marked porosity of the epithelium, and in this and in the "rubrum" variety, the continuous application of ointments is not contra-indicated, indeed is often beneficial. Hebra's ointment (equal parts of lead plaster and vaseline) may be applied, spread on strips of cloth and changed twice daily.

Pustular Eczema.—It is of course understood that *impetigo contagiosa* is no longer referred to under this term. True pustular eczema is rare. The discharge is usually markedly serous, and pustules indicate the presence of some pyogenic organism. Some cases described as pustular eczema are really ringworm. In all doubtful cases parasites should be sought for.

TREATMENT in this form is directed against the most important characteristic, the suppuration, and the continuous application either of weak antiseptic lotions or ointments is desirable. Weak boric lotion or hydrarg. ammon., grs. v, vaseline ℥j, should be kept constantly applied to the part.

Scaly Eczema.—It is very rare for eczema to take this form primarily. It is usually the last stage of some other variety, erythematous, papular, or vesicular. It may occur on any part of the body, but is perhaps most common on the legs. In it parakeratosis is the prominent feature, the epithelial cells are unhealthy, and do not undergo their proper metamorphosis.

TREATMENT.—Ointments are the best application. They should be well rubbed in, so as to soften and remove the scales, and cloths spread with them should be applied to the part. The most suitable drugs are tar and salicylic acid; the proportion should at first be small, and be gradually increased as requisite. A very successful application in cases of this sort on the legs of old people is equal parts of oil of cade and cod-liver oil. As the disease gets better, the proportion of tar may be increased, and by the time the cod-liver oil has disappeared from the prescription, the leg is usually well. Another useful method of treat-

ment is the application of strips of cloth spread with soap plaster to which 2 or 3 per cent of salicylic acid has been added. These may remain on for twenty-four hours, or even longer as the case improves. In these chronic cases there is invariably a good deal of thickening of the deeper tissues. Treatment must be continued until this has entirely disappeared, otherwise relapse is inevitable.

In very obstinate chronic infiltrated eczema, the heroic method of treatment first recommended by Hebra is often of great value. A pledget of wool is dipped in a solution of caustic potash (1-4), and the part is scrubbed with this. The potash dissolves the epidermic cells, in a few minutes large drops of exudation cover the surface, and severe pain is experienced. The part is then bathed with warm water for some minutes, after which strips of cloth, spread with equal parts of lead plaster and vaseline, are carefully applied. This method should be very cautiously used, until experience in handling it is gained, after which it will be found a most valuable weapon in obstinate cases. In localized obstinate patches it is probably the best method of treatment. A somewhat less severe method is the scrubbing of the part with soft soap. The effect is similar, though rather less severe.

If there is much thickening of the corium, and the eczema occurs on parts much exposed to movement, fissures are prone to occur. This is most frequent on the hands, or about the knees and elbows. The fissure is a mere accident, due to the loss of elasticity in the infiltrated skin, but such cases are sometimes described as *Eczema rimosum*.

REGIONAL VARIETIES.

Until there is more definite accord as to the nature, etc., of seborrhœa, it is impossible to deal with these varieties of eczema without alluding to it, but the subject is fully considered separately.

Scalp.—Eczema of the scalp is almost always seborrhœic, and treatment applicable to that condition is indicated. The complication of ringworm, known as *kerion*, is sometimes mistaken for eczema. The areas affected by that disease are regularly or irregularly round, and are usually covered by purulent crusts. On removing these a purulent fluid may be seen exuding, or is easily expressed from the mouths of the follicles, and the hairs may be removed with a minimum of force, while in eczema considerable force is

required. The fungus is usually easily found on microscopic examination, but it is necessary to examine a number of hairs, for healthy as well as diseased hairs are thrown off by the inflammatory process of kerion.

Ear.—The skin behind the ear is a very common seat of an inflammation, usually seborrhœic in origin. The part is red, and covered here and there with crusts. Very often, owing to accidental movements, fissures develop at the angle between the scalp and the ear. The main obstacle to treatment in this situation is the difficulty of keeping the application in contact with the diseased surface. This is overcome by the use of salve muslin (zinc ichthyol, or any other which may be suitable). If these are not available, an ointment or paste should be spread upon strips of cloth and carefully applied to the two inflamed surfaces. Lassar's paste is frequently useful.

The meatus auditorius is often attacked by eczema. Sometimes this is secondary to a catarrh of the middle ear, and is directly set up by the discharge: sometimes it may be found with a sound tympanic membrane. The parts must be kept scrupulously clean, and the meatus washed out repeatedly with weak antiseptic solutions. If due to discharge from the middle ear, treatment must be directed towards that condition. If confined to the skin, the important point is to be sure that the remedy reaches the diseased area. It is difficult to introduce ointments sufficiently deeply, and one of the best means of treating such cases is by a weak solution of resorcin or salicylic acid (1-4 per cent) in equal parts of spirit and water. This, dropped into the ear at intervals, is usually efficacious. Strong solutions of nitrate of silver (arg. nit. gr. x, spt. æth. nitrosi ʒj) may be painted on, and chloride of zinc, gr. x to ʒj, is often useful. It is most important that in such cases the ear should be thoroughly examined, in order that the presence of polypi, foreign bodies, or other disease may not be overlooked.

The lobe of the ear is very often the seat of Lupus erythematosus, under which heading the differential diagnosis is dealt with.

Face.—The face is probably the commonest seat of the erythematous form of eczema. This is often due to some irritant used in the toilet. Hair washes, face powders, shaving soaps, etc., should all be enquired into. In my experience the majority of cases of erythematous eczema

of the face are due to some such cause, though it is often difficult to detect it. Large areas of skin are attacked, but there is very often a narrow band of unaffected skin between the disease and the hair on the forehead. Most commonly acute (see page 111), it occasionally, especially in elderly people, takes a chronic form, the true skin is thickened, and the natural lines and furrows of the skin become greatly exaggerated. Soothing lotions, or the linimentum exsiccans (p. 22) are the most suitable remedies for acute cases; chronic ones require more active treatment, for the deep infiltration must be dispelled. Lotions are the safest remedies; greasy applications should only be used with caution, and to a small area. Salicylic acid and tar are the most useful active drugs for the dispersion of the infiltration, and in Duhring's words, the use of the latter should be "cautiously experimental."

Eyelids.—Eczema in this situation usually occurs in strumous children, who often at the same time suffer from other diseases of the eye. The pustular form of the disease is the most common, and crusts and scabs anchored by the lashes tend to increase the irritation. The crusts must be removed by the liberal application of ointment. Allan Jamieson recommends as the best basis in such cases:—

R.	Lanolini	ʒiij
	Ol. Amygdal. Dulc.	
	Aquæ	ʒss

The parts should be bathed with a mild antiseptic lotion (boric acid) several times a day, and in obstinate cases the application of silver nitrate (1 per cent) or caustic potash (gr. x to ʒj) may be tried.

The irritation is in rare cases set up by the presence of the pediculus pubis, and this should be borne in mind.

The eyebrows may be the seat of a similar eruption, though inflammations in that region are usually seborrhœic. The local treatment in all these cases will fall short of success unless means are taken by tonics, good food, fresh air, etc., to improve the general condition of the patient.

Lips.—A dry scaly eczema is not uncommon about the lips. There are very few of the familiar signs of inflammation, there is little redness, and no exudation. It will usually be found that in such cases there is some disturbance of digestion, and an acid and bitter tonic often does more good than the most skilful combinations of local treatment.

Cold cream or Lassar's paste with 10 grains of salicylic acid, will hasten the cure.

Cheilitis.—The red part of the lip is sometimes the seat of an inflammation, exceedingly chronic, uncomfortable, and unsightly. Sometimes crusts and fissures form, and bleeding is frequent. Another form of Cheilitis (*Χειλος*—the lip), of which I have seen several instances, consists in the development on both upper and lower lips, especially the lower, of small translucent vesicles not unlike the "sago grains" of Cheiropompholyx. When pricked these give exit to a considerable amount of clear fluid. Sometimes a number of superficial pustules are also present. This variety is associated with a good deal of thickening, and often eversion of the lip, which altogether alters the appearance of the patient. Mild remedies are useless; a cure can only be attained by steady persistence in the use of active measures. I have treated several cases successfully with bi-weekly applications of pure carbolic acid, precautions being taken to prevent it running on to unaffected parts. Should it prove inefficacious in any case, I would not hesitate to iron the surface with the thermo-cautery at a dull heat, the patient being, if necessary, anæsthetized.

In some cases that part of the upper lip immediately beneath the nostrils is the seat of a moist inflammation, usually accompanied by considerable œdema. Such cases are due to the irritation of nasal discharge, and no amount of local treatment will be of the slightest benefit unless the nasal catarrh is treated. Simple catarrh is usually soon cured by syringing the nostrils with a weak boric lotion (gr. iv to ʒj). If more serious conditions are present, they must be appropriately treated. The local treatment is of secondary importance. Lassar's or some other paste may be applied.

The Beard Region of the male is often attacked. The process is the same as on other parts, but descends here and there into a follicle, and leads to the production of pustules, which render both diagnosis and treatment more difficult. For the differential diagnosis from *Tinea barbæ*, *Sycosis*, and *Impetigo contagiosa*, see "*Tinea barbæ*." The removal of the beard is essential. If shaving is objected to, though it is generally not so painful as expected, the hair must be closely clipped with scissors, or a depilatory may be used. The safest of these is a cream made by adding water to equal parts of oxide of zinc, sulphide of barium, and

powdered starch. This is applied to the part for about ten minutes and when wiped off brings the hair with it. Only those hairs which are surrounded by pustules should be epilated, and salicylic acid (gr. xx) combined either with sulphur (gr. xx) or hydrarg. ammoniat. gr. v-x in vaseline or zinc ointment ℥j, should be well rubbed in two or three times a day.

Medicated soaps, such as sulphur-camphor, or boric acid, should be used for shaving, and the lather should be thoroughly rubbed in before the operation. It is essential that an ointment be applied immediately afterwards, otherwise the inflammation may be aggravated.

Neck.—The nape of the neck is often attacked simultaneously with the flexor surfaces of both arms, by a papular form of eczema. The rapid development and the simultaneous appearance in such widely separated situations, certainly suggest causes other than local, and disorders of other organs should be sought for. The local treatment is that of papular eczema generally.

Sometimes the neck alone is the seat of a chronic infiltrated patch of eczema, usually of the erythematous and papular type. Such cases are best treated by the application of Lassar's paste, with grs. x-xx of salicylic acid or nargol, weak tar ointments, or tar varnishes.

Trunk.—The more common forms of eczema in this situation are the erythematous and papular. Moist weeping eczemas of the trunk proper are rare. Most of the eruptions in this region are seborrhœic.

The *nipple* is often attacked by eczema in chlorotic, and especially in nursing women. There is a good deal of infiltration, deep exudation, and fissuring. A salicylic paste is often useful, and in obstinate cases benefit often results from the application of a strong solution of nitrate of silver in spt. æth. nitros, 10 per cent. Unless the inflammation is very slight, nursing should be abandoned. In all cases of chronic dermatitis of the nipple the possibility of Paget's disease (*q.v.*) should be considered.

Eczema of the *umbilicus* is, on account of the infolding of the skin, apt to prove obstinate. Ointments should be well rubbed in, some should be applied on lint, and a pad of wool should be strapped over all to ensure as thorough application of the drug as possible. In very obstinate cases nitrate of silver or caustic potash solution (1-10) may be painted on occasionally.

Axillæ.—A dermatitis may be set up by the decomposition of secretions, and presumably may arise from unknown causes, although most inflammations are due to seborrhœa (*q. v.*) Treatment must be suitable to the form which the eruption takes, but two circumstances must be kept in mind in treating diseases in this situation: first, that the excretion of sweat is very free, and thus applications are very soon washed away; and, second, that the shape of the cavity makes it difficult to keep lint spread with ointment in contact with the diseased surface.

The free excretion renders it desirable to use stronger applications than one would otherwise employ, and points to the use of pastes and powders, singly or in combination. The difficulty of application is overcome either by the use of salve muslins, cut in small pieces, or by the following device: after applying strips of cloth spread with ointment to the part, a lady's dress preserver, with a pad of wool between the wings, is fixed in position with a turn of bandage. This keeps the drug in contact with the disease. Boils are very apt to form in any inflammations here, and the first evidence of suppuration should be the signal for antiseptic bathing and the application of dilute hydrarg. ammoniat. or some other mild antiseptic ointment.

Genital Regions.—The scrotum and the skin of the thighs in contact with it are often the seat of a very painful and distressing form of eczema. The type generally followed is the erythematous, but the anatomical peculiarities of the skin in this situation impart to it special characteristics. The skin is intensely red and swollen, and from the loose nature of the tissues beneath, the exudation extends deeper than usual, and the parts are often enormously enlarged. The surface is usually moist, and the warmth of the part leads to decomposition of the excretions, which gives rise to a peculiar sickly odour. The contraction of the smooth muscles of the swollen skin causes a great deal of pain, and patients suffering from this form of eczema are usually very low in health and spirits. The eruption on the adjacent skin of the thighs is usually papular.

TREATMENT.—Generally speaking, lotions are the best method of treatment. While soothing ones (zinc, calamine) are the safest, the lead and tar lotion is in suitable cases more rapidly successful; it should be applied very much diluted at first. As the discharge diminishes, grease may be added to the application. Carron oil (ol. lini, aq. calcis,

aa pts. æq.) may be applied on lint, and for the drier stages, salve muslin (zinc ichthyol) or Hebra's ointment (empl. plumbi, vaselini, aa pts. æq.) spread on thin rags may be used. If the itching is intolerable, nitrate of silver (gr. xv) in Spt. æth. nitrosi ℥j may be painted on; this is very painful for the moment, but forms a skin over the part, and certainly diminishes irritation for a time. Strong tar tinctures, such as Baidon's liquor picis, often work wonders, but must be used with caution. Crocker recommends the application of a mustard leaf over the lumbar region. Bathing with very hot water, or the application of a hot sponge, is sometimes of value. Free purgation sometimes does good, but drugs have little if any influence on this form of the disease.

It is very important in this, as indeed in all eczemas, that every trace of the disease should have disappeared before treatment is abandoned.

When eczema attacks the female genitals, the possibility that it is due to diabetes must be first considered, and vaginal and uterine catarrh must be sought for and treated, if present. Otherwise, in its form, course, and symptoms, it closely resembles the disease on the scrotum, and the same treatment is generally applicable.

Anus.—When the skin in this region is inflamed, the parts should be carefully examined for hæmorrhoids, fissures, and parasites. When any of these are present, their cure is usually followed by the disappearance of the inflammation.

Eczema in this situation is usually papular and infiltrated, the skin being sometimes almost leathery in texture. The heat and moisture of the part favour the growth of organisms, which find in the inflamed skin a *locus minoris resistentiæ*. There is usually intense itching, and patients have an anxious, careworn expression often suggestive of some more serious disease.

As already stated, some digestive disturbance is often connected with such cases, and these functions should be enquired into. The bowels should be regulated, but free purgation is to be avoided. Laxatives, not purgatives, should be prescribed. The parts must be kept scrupulously clean by the use of plenty of soap and hot water. After washing, it is desirable to lubricate the part, so as to minimize the drying effects of the soap. A paste consisting of magnes. carb. lev. ℥iij, vaseline ℥v, is often useful.

The intense itching may be moderated by the application of weak tar or carbolic acid lotions. The strength of the tar may be gradually increased, and in some cases it may be painted on pure. Salicylic acid in a paste (gr. x to xxx) aids in dispelling the infiltration, but if these comparatively mild methods fail, more active ones must be employed. Pure carbolic acid may be painted on, caustic potash solution may be applied (page 116), or the patient may be put under chloroform and the diseased surface ironed with the Pacquelin cautery at a dull red heat. This is by far the most efficacious treatment, though patients are naturally desirous of trying milder measures first.

The application of the high-frequency current by means of a vacuum electrode is said to have been successful.

Legs.—Eczema on the thighs presents no special peculiarities. It is usually papular in form. The term *eczema marginatum* is applied to the eruption of ringworm in the genito-crural regions. It often extends down the thigh (see "Ringworm"). The flexures of the knees are often the seat of a papular, infiltrated, fissured eczema. This usually itches severely, and as hardly any part of the body is so favourably seated for scratching, the disease is usually very persistent. Fortunately it is surprisingly tolerant of treatment, and strong applications may be used. Salicylic acid (5-7 per cent) or tar (3j-3j) may be applied in ointments; a good scrubbing with soft soap usually does good, and Hebra's caustic potash treatment may be used with advantage in obstinate cases.

Eczema below the knee owes most of its peculiarities to congestion of the skin. Once started, an inflammation here is delayed in healing by the stasis of the blood, which is, of course, most marked where there is varicosity of the veins. Consequently, eczemas of the leg are usually intensely red and moist (*eczema rubrum*). Slight injuries, which in the healthy would be unnoticed, may be the starting point of a varicose ulcer with all its complications. In less severe cases the congestion only interferes with the final stage of cure, and a scaly form of the disease may persist indefinitely.

Rest is of primary importance. While retirement to bed with the feet elevated is the ideal, it is fortunately not the only method of giving rest to the skin, for to working people the advice to go to bed for some weeks is a mere "counsel of perfection." Unna's zinc gelatin is an excellent

substitute. It should be made stiff by using equal parts of zinc oxide, gelatin, glycerin and water. This contracts as it sets, and by its supporting pressure forms a wonderful rest for the skin. Hebra's ointment spread on strips of cloth, and applied after the fashion of the many-tailed bandage, is more useful in the moist stages of the disease, while in the drier ones, Pick's salicylic soap plaster is excellent. From 2-5 per cent of salicylic acid is melted in the soap plaster, which is spread on butter cloth and hung up to dry. Strips of this, overlapping each other, are then applied to the limb. The first dressing should be renewed in twenty-four hours, but subsequently the intervals may be lengthened up to as much as a week. This method is both efficient and cheap. In the slighter scaly forms the application of strips of lint soaked in equal parts of cod-liver oil and oil of cade is often useful, the tar relieving the itching. Rest and support are the essentials; the simple application of ointment is almost useless.

Arms.—Eczemas of the arms have no special characters. Papular forms are the commonest. Many are due to some irritant connected with the patient's work, and are therefore really traumatic inflammations. The apparently neurotic form which appears simultaneously on the flexures of both elbows and on the back of the neck, has already been referred to (page 120). Eczemas of the bend of the elbow exhibit the same tolerance of treatment as those of the flexures of the knees. Scabies often closely simulates eczema, and the hands and wrists must be carefully examined for definite signs of that disease.

Hands and Feet.—Cheiropompholyx, which some still regard as an eczema, has already been dealt with. The skin over the first metacarpal is often the seat of a patch of seborrhœic eczema.

The eczema which attacks the palms and soles owes its characters to the anatomical structure of the skin of these situations. The horny layer is especially developed and resistant, consequently the exudation does not readily make its way to the surface, but diffuses itself through the thick layers, which are afterwards separated in large thick flakes. The skin beneath is sodden, and deep fissures extending down into the true skin are of common occurrence.

A late scaly syphilide sometimes attacks the palm. Scarring is not so obvious as in most of the tertiary lesions, and the diagnosis is often difficult. As a general rule the

specific lesion is unilateral, while, unless for some special reason, such as the patient's occupation, eczema is bi-lateral. The specific lesion commences in a central spot, and clears up in the centre as it advances, while eczema in this region is usually worst at the centre, and fades away gradually at the periphery.

Our object in treatment is to remove the horny armour which covers the surface and prevents remedies from reaching the disease. This is best done by the application of Pick's salicylic plaster (5 per cent). Strips of this should be closely applied, and changed daily. The parts may be bathed in alkaline solutions, and in very obstinate cases soft soap may be applied as a dressing. When the thickened skin has been removed, salicylic ointments (3-5 per cent) will generally complete the cure: strong solutions of tar are often more useful.* These may be painted on every night, provided no irritation follows, and in my experience cases recover more rapidly under this than any other method. If, however, after the removal of the scales, vesicles tend to appear on a tender reddened skin, less active methods must be employed. Lassar's paste, with 10 grains to the ounce of salicylic acid or resorcin, should be rubbed in, two or three times daily. The salve stick (page 27) is very suitable for such cases, as it can be carried in the pocket and used at any odd moment.

SEBORRHŒA (and Seborrhœic Dermatitis).

(*Sebum* or *sebum*—*suct*, and *ῥέω*—*flow*.)

There is still a good deal of difference of opinion on this subject, and it hardly seems advisable to confuse the student with long arguments for and against conflicting theories. It is a mere dialectic device to point triumphantly to the derivation of the word, and claim this in support of any theory, for those who are responsible for the coining of the term were under the impression that the scales of seborrhœa were the dried secretion of the sebaceous glands, which they are not. Seborrhœa should, I believe, be looked on as a specific form of inflammation of the skin, which in its commonest form is familiar as dandruff of the scalp. And I regard the seborrhœa of Sabouraud, as indeed he does himself, as the initial stage of acne.

* Messrs. Baidon & Son prepare a *liquor picis* which is less irritating than the pharmacopœia preparation.

Although the commonest form of the disease is ordinary scaly dandruff, there are others nearly as common in which the amount of oily material is present in such excess as to anchor the scales to the scalp, so that on superficial examination there appears merely a diffuse yellow discolouration, the true nature of which is only disclosed by scratching with the finger nail. The scalp is not reddened, any disturbance being limited to slight itching. In the majority of cases the disease does not extend further; usually there is gradual thinning of the hair, but as a rule none of the ordinary signs of inflammation are present. Exceptionally, however, on the scalp, and invariably when the disease spreads to other parts of the body, the more familiar signs of inflammation appear.

It seems difficult for some to absorb the fact that processes so apparently different are in reality one and the same. Yet if one takes a familiar disease in which the cause is definitely known, the same phenomena are noticed. In ringworm, the affection of the scalp is a *dry scaly* one, with hardly any of the ordinary signs of inflammation. If the disease is inoculated on some other part of the body, then there appear the redness, swelling, and exudation, which convince everyone of its inflammatory nature. Other less common diseases illustrate this tolerance of the scalp to irritation, as also does the fact that the scalp will stand more concentrated remedies than any other part of the skin. As already said, occasionally the more familiar signs of inflammation develop, as they do in ringworm when they lead to the production of kerion. The skin becomes red and swollen, and fluid in varying amounts exudes from its surface. This cakes the scales together, and they form a covering which to some extent arrests the discharge, and this, decomposing, adds to the irritation. This condition is known as Seborrhœic Dermatitis of the scalp, the *Eczema capitis* of the older authors.

In cases of this severity, however, and in many others which do not reach such a degree, the eruption is not limited to the scalp. When the scalp is inflamed, the eruption tends to spread *on the forehead* and *behind the ears*. Even in the absence of evident inflammation of the scalp, these regions are not infrequently affected, and then the change in the type of the disease is at once seen. Instead of a simple dry catarrh, without any evident hyperæmia, the skin is red and swollen, and covered with vesicles or exuda-

PLATE XVIII.



SEBORRHŒA.

W. G. & Co., London, 1867.

tion. Perhaps more frequently in cases where the head is not inflamed, the extension is to the face (*see* "Rosacea"), the sternal region, and the inter-scapular region. On the chest it was long dignified with a special name, *Lichen circinatus*, or *marginatus*; and Duhring, of Philadelphia, was the first to point out its seborrhœic nature, and to describe it as *Seborrhœa corporis*. Here the signs of inflammation are evident enough. Commencing in small red spots, the disease rapidly spreads, in rings or circles, which have a very characteristic appearance. The border may be occupied with papules and vesicles, the centre is of a reddish yellow colour, and the surface is greasy. A few moist scales may be present. The condition is well illustrated in *Plate XVIII*. The disease in the inter-scapular region, where it is less frequent, presents similar characters. Other favourite situations for the typical seborrhœic dermatitis are the axillæ and groins, where the yellow greasy character and the tendency to rapid gyrate spread are specially prominent.

The disease is by no means limited to these situations. It may extend to any part of the body, and to a great many parts at one and the same time. The characters vary; sometimes the spots resemble those on the sternal region, papules and vesicles being present. Sometimes the eruptions are crusted, and most frequently *scaling* is the most prominent characteristic. Usually the spots have the same yellow colour as the centre of the patch over the sternum, but, as the moisture in them decreases, the drier become the scales, the less evident is the yellow colour, and the lesions become indistinguishable from the spots of psoriasis. This is specially the case upon the limbs, where the skin is firmer and more resistant to irritation. Occasionally the spots are so numerous and spread so rapidly as to cover almost the whole surface of the body, and when this is the case the disease sometimes alters its character. The infiltration of the skin disappears, the disease takes on the character of general exfoliative dermatitis (*q.v.*), and is then known as *Pityriasis rubra seborrhoica*. *Plate XIX* is from the same patient as *Plate XVIII*, and shows this stage of the disease.

The disease affects all ages and both sexes. In infancy, seborrhœa is appallingly common, and there is little doubt that if it were then more thoroughly treated, there would be fewer cases in after life. In infants, this, in common

with other diseases, tends to moisture and suppuration, and this, possibly, explains the statement that psoriasis is practically never seen in children under seven. Sex has apparently little bearing on the disease, although males are said to be more frequently affected than females.

HISTOLOGY.—Microscopic examination shows very much the same changes as those described under eczema (p. 105). Parakeratosis or irregular cornification is always present, and usually a very prominent feature, and epithelial growth and moisture are also found.

NATURE AND CAUSE.—In all likelihood, seborrhœa owes its existence to a specific organism. Organisms of so many kinds abound in the scalp, that it is not easy to definitely identify the real cause, but the organism which is described by different observers under the names of the *morococcus*, the *staphylococcus epidermidis albus*, and the *staphylococcus cutis communis*, seems the most likely culprit. In the scalp it is associated with others, notably the flask bacillus, but as the disease spreads on to the smooth skin, the relationship of the organisms to the disease becomes more evident. They are found in greatest numbers at spots where there is most exudation, and are arranged in little clusters resembling a raspberry or mulberry, hence Unna's name *morococcus* (*μωρον*, a mulberry).

Unna further believes that, in addition to causing inflammation, they stimulate the coil glands to increased activity, hence the greasy nature of the disease. Sabouraud believes that the oily matter comes from the sebaceous glands, which are morbidly stimulated by the growth of his bacillus. His views are discussed more fully under acne. The matter requires of course much further investigation, but although we do not know definitely the cause, we know, I think, enough of the nature and course of seborrhœa to justify us in separating it definitely from eczema.

DIAGNOSIS.—In this connection the different parts of the body must be considered separately. It is practically impossible to distinguish between seborrhœa and psoriasis of the scalp. Occasionally psoriasis is found in patches on the scalp, but as a rule the eruption is diffuse, and probably most of those who profess to distinguish between the two conditions are influenced by the results of inspection of other areas.

The disease which is most likely to be confused with seborrhœa of the scalp is ringworm, and in children it

PLATE XIX.



SEBORRHŒA.

should only be after a very careful search that seborrhœa is registered as the diagnosis. The effects produced by the irritant, the fungus in one case, the still undetermined organism in the other, are practically the same, viz., a mild degree of inflammation which results in scaling; and it is often only the discovery of the fungus which enables one definitely to separate the two.

On the face, Seborrhœa sometimes simulates lupus erythematosus. The scales of Seborrhœa are yellow and greasy, those of lupus erythematosus are greyish and dry. When the scale of Seborrhœa is removed, the mouths of the glands are often seen gaping as in lupus erythematosus, but in that disease the under surface of the scale is beset with little projections drawn from depressions in the skin. The commonest seat of Seborrhœa, after the forehead, is just above the *alæ nasi*. Lupus erythematosus is most common on the bridge of the nose and on the cheeks.

On the body, most stress should be laid on the yellow greasy character of the early spots. The earliest redness is often described as of a salmon colour, but it is the yellow tint in the colour which is most distinctive.

Among those diseases with which it is commonly confused are :—

(1) *Pityriasis rosea*.—The distribution is usually different, and the spots themselves show distinctive characters. Those of pityriasis rosea have a rosy red border not elevated above the surrounding level, and the yellow surface usually has a dry and wrinkled, instead of a greasy appearance. The history, too, is quite different (*see p. 142*).

(2) *Syphilis*.—Usually the important point to determine here is, not which disease is present, but whether both are. The syphilitic eruption which resembles seborrhœa is not the early roseola, but a later rash, which is really a combination of syphilis and seborrhœa, sometimes, unfortunately, termed syphilitic psoriasis.

In a very large proportion of cases the *feeling* of the spot is conclusive. If the finger be passed pretty firmly over one of the spots, the syphilitic one gives to the observer the sensation of something present *beneath* the skin as well as on and in it. In seborrhœa the increase is in the epithelial cells, which are heaped up on the surface. When syphilis is present we have, in addition, a new growth in the true skin, a multiplication of the connective tissue cells. Other signs of syphilis must of course be sought for.

(3) *Ringworm*.—Especially in the genito-crural and axillary regions is this disease imitated by Seborrhœa. Both have a gyrate margin, both spread rapidly, and in these situations the centres of both have a yellowish tinge. Ringworm tends to have more vesicles and pustules on its borders; but the diagnosis is sometimes difficult, and a careful examination of the scales for fungus, and of the other parts of the body for further evidences of one or other disease, should invariably be made. Ringworm is much the rarer of the two diseases, at all events in this country.

PROGNOSIS.—Seborrhœa on the scalp is so difficult to cure radically, that the prognosis is by no means invariably good. While the lesions on the body can easily be cured, there is always the likelihood, indeed the practical certainty, so long as the disease remains on the scalp, that any slight disturbance of general health, any local irritation of the skin, will be followed by a fresh outbreak.

TREATMENT.—No treatment will be successful unless it is thoroughly recognized that the *scalp* is the important factor in connection with the general disease. Treatment of the scalp is the alpha and omega of the treatment of seborrhœa and seborrhœic dermatitis. The most satisfactory way of removing the diseased products from the scalp is thorough washing with soap, preferably Hebra's soap spirit (℞ Saponis mollis ℥iv, spt. vini ℥ij). The head should be thoroughly shampooed with this at intervals, which vary with the extent and stage of the disease. Thus, if there is very little irritation, the scalp may be washed daily; if there is obvious inflammation, the intervals should be longer. It is most important that all the soap be thoroughly washed away with repeated fresh waters. This alone suffices to cure slight cases, but as a rule some further treatment is required.

The two drugs which have most influence on Seborrhœa are *sulphur* and *salicylic acid*. They may be applied to the scalp in a much more concentrated form than to other portions of the body. Little, however, is gained by commencing with too strong an application: 15 grains of each in an ounce of vaseline should be tried, but the proportion may be considerably increased if necessary. During the prolonged treatment which is usually required, the patient is apt to tire of greasy applications, and under any circumstances they are disliked by ladies. A salicylic lotion (℞ Ac. salicyl. ʒj-iv, ol. ricini ʒij-vj, ol. ros. geran. ℥x,

spt. vini ad ℥vj) is a pleasant substitute. The amount of castor oil should be increased if the hair is dry, and *vice versa*. Men can apply this by shaking a bottle with a perforated cork over the scalp, and then using a pair of brushes; ladies should use a spray with a long nozzle, which can be applied so as to ensure the application reaching the scalp. Salicylic fluid vasogen is a cleanly and satisfactory way of applying the drug. It may generally be used as strong as 10 per cent, but it must be borne in mind that so strong an application, while acting beneficially upon the scalp, is by no means so well borne by the less resistant skin of the hand. Either gloves must be worn when applying the ointment, or the hands must be washed immediately afterwards. Other drugs which may be used in the dry form of the disease are tannin, $\frac{1}{4}$ to 1 drachm to the ounce, and pyrogallol, ʒj-℥j. This is sometimes exceedingly efficacious, and on the scalp it does not become so black as it does on other parts of the body. According to Unna, this is due to the more acid reaction of the excretions preventing the reduction process. If the disease has gone further, and the scales have become moist crusts, while the skin beneath is reddened, then treatment must at first be less severe. The scales may be removed by soaking the scalp with oil. If the case is severe, the hair should be cut, and the skin dressed continuously with some preparation containing sulphur and salicylic acid spread on lint. Like Leistikow, I have not found any great objection to the use of pastes on the hairy parts, and a prescription of salicylic acid and sulphur, aa grs. x, oxide of zinc ʒij, vaseline to ℥j, is often successful. As the moisture diminishes, the amount of zinc in the prescription may be diminished also, and the proportions of the other drugs, if necessary, increased.

When the disease has spread to the body, the treatment must be regulated according as the skin reacts with the formation of vesicles, scales, or papules. When it spreads directly from the head to the neck and behind the ears, the eruption is usually moist, and for such a condition Lassar's paste with 10 grains of salicylic acid to the ounce is a very valuable application. Mr. Morris' prescription of 10 grains of sulphur to an ounce of zinc ointment is also often useful, as are the older remedies of plain zinc ointment and Hebra's diachylon ointment. The essential to success in the treatment of such cases is to keep the part constantly covered.

As the eruption takes a more and more scaly form, for some reason unknown, sulphur appears to become less suitable, and in the driest forms, where much more active remedies, such as chrysarobin, etc., do well, even to irritate and aggravate the disease. The same is fortunately not true of salicylic acid, which may be used in the strength of 3 to 10 per cent, according as the eruption is widespread or limited, for strong salicylic ointments applied to large surfaces of the body are liable to be absorbed and to give rise to salicylic poisoning. The treatment of the very dry forms, which I regard as indistinguishable from psoriasis, will be found under that disease.

ROSACEA.

The word acne in association with this disease is daily and deservedly losing its place. It was applied because pustules are very frequently found in Rosacea which do have a certain superficial resemblance to those of acne vulgaris. The older books devoted much space to the distinctions between the two varieties of pustules, but they are easily compressed into the statement that in acne the comedo is the starting point of the disease, and *is the centre of every pustule*, while in Rosacea the pustules *are secondary* to the disease, and have *no necessary* relation to the sebaceous glands. Without going the length of denying a neurotic element in certain cases of Rosacea, it is my conviction that the vast majority of cases are due to seborrhœa, and that Rosacea is really a form of seborrhœic dermatitis. That the nervous system plays a *rôle* is correct enough; that stomach disturbances, etc., aggravate the condition is also true; but the real exciting cause of nearly every case of Rosacea is seborrhœa of the scalp. The disease is due to the constant irritation of the skin produced by the deposition of the scales and organisms (?) of seborrhœa.

Rosacea is said to be commoner in the female than in the male, and here, probably, the neurotic factor is important in giving to the organisms a favourable soil for their growth. The disease consists in an inflammation of the skin—a dermatitis which culminates at certain points in the development of small pustules, although these are not invariably present, in some cases the dermatitis not going beyond the papular stage. It affects especially the nose, cheeks, chin, and forehead, in short, the centre of the face. The hyper-

æmia keeps the skin in a constant state of hypernutrition, leading to the development of increased fibrous tissue, evident in the milder cases as simple thickening, and in the more severe ones as those hypertrophic, pendulous masses which go by the name of rhinophyma or potato nose.

The disease is often erroneously attributed to irregular habits in regard to alcohol; and undoubtedly alcohol, along with a good many other articles of diet, by its tendency to distend the cutaneous blood-vessels, does contribute to its development. But all must be familiar with cases of the disease in teetotal friends, and alcohol is only one of many factors. All the dyspepsias which lead to flushing, increase any latent tendency to the disease, and they have therefore a very intimate relationship with its etiology, treatment, and prognosis. But underlying all is seborrhœa; and the recognition of this and its appropriate treatment results in a greatly improved recovery rate.

The treatment of the disease, therefore, divides itself into two parts, local and general, and as the local is the more important, it will be considered first.

LOCAL TREATMENT.—The seborrhœa of the scalp, which will be found more or less developed in all cases, must be treated by frequent washings with soap spirit, and the application of a strong sulphur and salicylic acid ointment, or of salicylic vasogen. Sulphur, in lotion, paste, or ointment, should be applied to the face. The choice of one or other of these depends on the amount of reaction and the greasiness of the skin. If there is much inflammation a lotion is to be preferred:—

℞	Sulph. Præcip.	
	Calaminæ	aa ʒiv
	Glycerini	ʒj
	Aquam ad	ʒiv

Sig.—Shake and paint on with a brush.

Sulphur has, in addition to its antiseptic effect, a certain action in constricting the vessels, an action which its relative ichthyol is said to possess in even a greater degree.

℞	Ichthyol	ʒj
	Aquæ	ʒj

Sig.—Paint on twice daily.

If the amount of irritation is not very great, the method of shelling the skin with resorcin, described under "Acne" (p. 159), may be tried with good effect.

The dilated vessels are sometimes so numerous and so large as to be beyond the reach of drugs, and to require mechanical treatment. Electrolysis is a handy method, the needle attached to the negative pole being introduced into the capillaries, and a weak current being allowed to pass until the blood in the vessel is coagulated. Confirmed by histological investigation, Unna uses in preference the fine point of his *microbrenner* (described under "Lupus"). It is used at a dull heat, and the blood in the vessels is coagulated as with the electric needle. Some slit up the vessels with a fine knife, while others occlude them by multiple scarification. If the mouths of the glands are wide and gaping, they may be stimulated by a touch of the needle of the *microbrenner*. In cases where there is great irritation, a boro-calamine lotion may be used for a few days, *e.g.* :—

R	Calaminæ	
	Zinci Oxidi	aa ʒss
	Ac. Borici	ʒj
	Glycerini	ʒij
	Aq. ad	ʒvj

GENERAL TREATMENT.—The lines of general treatment in this disease are easily indicated. The patient must keep the system in the best of health, particular attention being paid to regularity of the bowels. In regard to diet, he must avoid *everything which experience has shown causes any flushings of the face*, especially all forms of alcohol, tea, spiced meats, and condiments. Probably curry is really much more harmful in rosacea than alcohol. Violent exercise, unless the patient is in good condition, is undesirable, and undue exposure to the sun will, by producing hyperæmia of the face, aggravate the disease. If any patient were so foolish as to insist that he would only follow one or other line of treatment, internal *versus* external, there is no doubt that the external treatment is the one which would be followed by most improvement.

Rhinophyma.—While the milder forms of this may be treated as above described, well-marked cases are only amenable to surgical treatment. This is very simple, consisting simply in paring the nose down to any desired shape. The hæmorrhage is usually considerable, and the extensive raw surface left is a little alarming to one who is doing the operation for the first time. But it heals with

surprising rapidity, and one may generally promise the patient that a fortnight will see him able to face the world once more.

ALOPECIA SEBORRHOICA.

Premature baldness, that gradual thinning of the hair which is so very much more common in young males than in the opposite sex, is invariably due to seborrhœa. It is interesting to note that those who suffer from seborrhœa and yet preserve their hair, always have an abundance of oily secretion on the scalp, and their hair early turns grey. The great predominance of baldness in the male sex is probably to be explained by the more frequent visits to the barber, rather than by the wearing of hard hats, etc., for baldness is at least as common now as it was when these hats were more universally worn. Probably there would be less were it not for the prevalence of the absurd tradition that washing of the scalp is injurious.

PROGNOSIS.—If left alone, the condition steadily advances until all but a fringe at the sides and back of the scalp is lost. But steady, persevering treatment can arrest it at almost any stage, and generally brings about some improvement.

TREATMENT.—This is practically that already described under seborrhœa. In slight cases daily washing with soap spirit is enough for cure. It is incredible how long some people (cleanly people) are willing to go without washing their scalps. The applications vary with the cases. The salicylic lotion recommended on page 130 is very often suitable; salicylic vasogen is perhaps more useful, though less agreeable, and to either a small amount of cantharides may be added if desired. Cantharides has the power of promoting epithelial mitosis, and there are, therefore, grounds for the popular belief in its efficacy. It is, however, valueless if used alone; the seborrhœa which is at the root of the disease must be the main object of our attack. Sulphur, resorcin, mercurials, pyrogallol, etc., may all be found suitable in individual cases, but perseverance is the essential ingredient in all prescriptions.

PSORIASIS.

Although I regard Psoriasis as merely the extremely dry form of seborrhœa, this is by no means generally admitted, and it is such an old-established condition, and presents

so many marked characteristics, that in spite of what time may show regarding it, it is desirable that it should have a section to itself. The disease requires little description; everyone is familiar with the dry silvery scales on the red circular patches of psoriasis. The varieties of it are infinite, from minute scaly spots (*Plate XX*) on the patient's chest, up to large patches on the back as much as a foot in diameter (*Plate XXI*). While the silvery scales are usually prominent, there occur cases where they are not actually visible. In such cases they can be at once brought into view by lightly scratching the part with the back of the finger nail. This as a test for Psoriasis is of much more value than the old one of removing the scales with the nail and disclosing small bleeding points, for that phenomenon entirely depends on the vigour with which the part is scratched.

The disease affects both sexes and all ages, although it is most common in young adults, and is rare under seven years of age. It is generally described as being distributed on the extensor surfaces, and as being most marked upon the elbows and knees, where it is usually said to commence. It will be found, however, that a great many cases admittedly commence on the scalp, which is almost always affected—another argument in favour of its relationship to seborrhœa. When a section is examined, the appearances presented are identical with those of the drier forms of that disease. There is a proliferation of the epithelial cells, and the epithelial ridges are consequently thicker than normal, while the papillæ reach more nearly to the surface than they normally do. This is the explanation of the bleeding points: when the epithelium is removed by the finger nail, the papillæ are reached sooner than they are in healthy skin. The epithelial cells show very marked parakeratosis, the nuclei being preserved right up to the surface.

DIAGNOSIS.—The difference between Psoriasis and seborrhœic dermatitis is merely one of degree. From the moister forms of that disease it is easily enough distinguished, mainly by the absence of evident moisture; the spots in the seborrhœic dermatitis have a yellower colour, and the scales are not of the dry powdery nature found in Psoriasis. Distinctions are often drawn between Psoriasis and the so-called syphilitic psoriasis, and rules for distinguishing between the two are formulated. There should not be

PLATE XX.



PSORIASIS
(partly treated).

PLATE XXI.



PSORIASIS.

much difficulty in this. There are two syphilitic eruptions which do somewhat resemble Psoriasis. The rash in the secondary period is occasionally somewhat scaly; but there are certain points of distinction which should make the diagnosis easy enough. Firstly, the distribution. The syphilitic rash is more common on the trunk, while the typical Psoriasis is also found quite extensively on the limbs. The spots in syphilis are, as a rule, smaller and more uniform in size than those of Psoriasis. The colour in Psoriasis is pink, while in syphilis it is a mixture of deep red and yellow. Chiefly and most important of all, when the spots are felt there is in the syphilitic one *a feeling of growth*. One is conscious of the presence of something *under* the skin as well as *in* it and *on* it. This is probably the most useful of all the distinctions. In addition, one has in syphilis other evidences of the disease; the affections of the throat and glands are not present in Psoriasis. It must, however, not be forgotten that a patient may have both diseases at the same time.

The other form of syphilis which may be confused with Psoriasis is the *late scaly syphilide*. Sometimes very late in the tertiary period—it may be thirty to forty years after inoculation—the patient is attacked with a pretty widespread eruption, which does have a certain resemblance to Psoriasis. The patches are scaly and spread in rings, or perhaps more often in ovals. There is, however, the very great difference that a scar is left, which is never the case in Psoriasis.

A disease very frequently confused with Psoriasis is *lichen planus*. Lichen is by no means an uncommon disease, but it is passed over with the briefest of notes in systematic lectures, while Psoriasis has given to it possibly an undue importance. For a full description, the section on "Lichen" must be referred to, but it may here be noted that the initial papule of lichen is not scaly, indeed, it is only in chronic cases where patches have formed, that any marked scaling develops. Even then it is of a greyish colour, quite different from the silvery scales of Psoriasis. A treated Psoriasis is much more easily mistaken for a lichen than an untreated lichen for any form of Psoriasis.

PROGNOSIS.—The prognosis of Psoriasis as regards individual attacks is good, but the disease is exceedingly likely to recur. Indeed, if it is treated by itself, and all reference to seborrhœa ignored, it is absolutely certain to

return; the importance of the treatment of seborrhœa and its bearing on the recurrence, is one of the strongest arguments in favour of the identity of the diseases. Even with regard to life, the prognosis is not absolutely good. No doubt Psoriasis by itself never kills, but it may develop into pityriasis rubra, and then the prognosis becomes that of the latter disease.

INTERNAL TREATMENT.—Many drugs are believed to have the power of influencing Psoriasis. Only four will be here referred to:—

Arsenic.—In suitable cases there is no doubt that arsenic has a beneficial effect on this disease. It is its indiscriminate use which has led to its falling partly into disrepute. If the case is recent, if the spots are red and are increasing in number, arsenic is certain to aggravate the disease. If, on the other hand, it has lasted for some time, if the spots have ceased to spread, if they are of a pale pink colour, and if none of them show any tendency to moisture, then arsenic judiciously administered will hasten their disappearance. The actual form of administration is not of very much importance. In this country, Fowler's solution is usually prescribed; Kaposi administered it in the form of the so-called Asiatic pills, the formula for which is:—

Ry	Acidi Arseniosi	0·5
	Piper Nigr.	5·0
	Gumi Arabici	1·0
	Aqua: q.s. ut fiant pil. 100.	

Small doses should be given at first, and these should be increased until either the disease shows signs of remitting, or unpleasant symptoms are developed. In that case the drug should either be stopped or greatly diminished in dose. If it is continued in spite of the warning symptoms, the Psoriasis will often apparently benefit, just as leprosy does under arsenic, but when the patient again regains his strength, so does the Psoriasis. When the disease is improving, it is enough to continue with the dose which has wrought that improvement. In rare cases, arsenic long continued produces a greyish pigmentation of the diseased areas.

Salicylate of Soda.—This treatment was first introduced by Crocker, and it is of undoubted value in many cases. Fortunately it is especially useful in those cases where arsenic is injurious. If the disease is spreading, if the spots

are red, and if there is any tendency to moisture, it should be preferred to arsenic. It should be given in full doses.

Iodide of Potash.—Iodide was first used in the treatment of Psoriasis in Denmark. It is applicable in all varieties of the disease, but if it is to be used it must be given a fair chance. The doses requisite are enormously larger than we are in the habit of giving in this country, reaching to as much as a drachm or a drachm and a half three times a day. It is well to bear in mind that iodide of potash is a somewhat expensive drug, and while admitting that it may do good, I do not feel that it is a method greatly to be recommended.

Thyroid Substance.—I admit freely that under the administration of thyroid substance Psoriasis does disappear, but I believe that the disadvantages and risks attendant on its use are by no means compensated for in a result which can be attained by many other less dangerous remedies. If it is to be given, the patient must be under constant medical supervision, and if it is to have a thorough fair trial he must remain in bed. I have seen enough of the disadvantages of thyroid to give a pretty emphatic opinion that it should not be used as a routine treatment in Psoriasis. Small doses of thyroid substance along with small doses of arsenic are, as noted by Ewald, often of much more value than either alone, and I always use it in this combination.

EXTERNAL TREATMENT.—The description of this involves a certain amount of repetition, for the treatment of the seborrhœa on the scalp is of primary importance. The head should be thoroughly scrubbed daily with soap spirit, and an ointment of salicylic acid, half a drachm to the ounce, or pyrogallol, a drachm to the ounce, or salicylic valsol, 10 per cent., well rubbed in. For the rest of the surface, among many, three stand out prominently as the most efficacious. These three are chrysarobin, tar, and salicylic acid.

Chrysarobin is undoubtedly the best remedy if the patient is desirous of a rapid cure, and can give himself up to treatment. Baths should be taken twice daily, and while in the bath the patient should scrub with a nail brush all the affected spots, to remove the scales. On coming out he should be well rubbed (not rub himself) with an ointment containing chrysarobin. The ointment should be very liberally applied, enough being left on the

skin to make the application practically continuous. Unna's compound chrysarobin ointment is much better than a simple one:—

R	Chrysarobin	parts 5
	Ichthyol	„ 3
	Salicylic Acid	„ 2
	Vaseline	„ 90

This, of course, is restricted to the body, for chrysarobin applied to the scalp without very special precautions sets up erythema and œdema of the face and conjunctiva. The oldest of clothes must be worn, for they are irretrievably ruined by the drug. In a few days the patient begins to feel uncomfortable, the skin becomes inflamed and irritable, and soon presents a curious negative of its previous condition, all the diseased spots standing out white against the inflamed, previously healthy skin around them. This effect of chrysarobin is shown on the arms of the patient in *Plate XX*, who was treated in this piecemeal fashion to demonstrate that the effects of the drug were purely local, and that its application did not affect the eruption generally, as is sometimes stated.

At this stage, it is a common practice to arrest the treatment for a time, until these signs of irritation have disappeared. If this is done, the patient will have suffered most of his discomfort in vain. The application should be continued until the white areas become reddened like the rest; this involves some endurance, for the discomfort is considerable, but it is essential if the full benefits of this treatment are to be obtained. Pautrier puts it very succinctly, "*Pas d'érythème, pas de guérison.*" When the skin has become uniformly red, some mild application, such as zinc ointment or plain vaseline, should be applied, and a careful watch kept for any new spots which may appear. These should be treated by painting with salicylic collodion (5j-3j) which will generally arrest their further development. Chrysarobin, if used in any less thorough manner, is usually disappointing, and if it cannot be applied in this way some other remedy should be preferred.

Tar.—Tar is the safest of all remedies for Psoriasis, and may be entrusted to patients of ordinary intelligence without their being under direct medical control. It may be applied in the form of an ointment (5 to 10 per cent) to any part of the body, for it does not, like chrysarobin, set up facial œdema. An exception should be made with

regard to the scalp, where tar ointment is an unnecessarily unpleasant method of treatment. The patient should take frequent baths, and in the bath the scales should be scrubbed off with a nail brush. The patient may be painted with pure tar before entering his bath; this is an efficacious method. Tar acetone (tar 1, benzol 2, acetone 8) is a little cleaner than the preparation just mentioned. It may also be used in the form of soap, the patient lathering himself freely with one or other of the numerous tar soaps. Equal parts of tar, soft soap, and spirit make a powerful remedy, and ichthyol tar soap is convenient. The lather must be well rubbed in and allowed to dry on, and the patient should sleep in a flannel night-dress. On one night a week the soap treatment should be omitted and plain vaseline applied.

Salicylic Acid is most appropriate to those cases which are not very wide spread; for if the patient's skin be thin, absorption may take place, and the well-known signs of salicylic poisoning—drowsiness, and diminution in the amount of urine—are observed. For limited cases it is a valuable remedy, and is probably best applied dissolved in vaseline in the strength of from 5 to 10 per cent.

Sulphur, which is so valuable in the moister conditions of seborrhœic dermatitis, is rarely useful in the dry Psoriasis. Indeed, cases which will stand without resentment such powerful remedies as chrysarobin and pure tar, often seem intolerant of even small amounts of sulphur.

X-rays.—I must confess that I was at one time extremely sceptical of the accounts of the cure of Psoriasis by exposure to the rays. I am still of opinion that as a means of cure they are not to be recommended. But there is no denying the fact that the eruption does disappear from the parts exposed; and when the eruption is on exposed parts, there is real use for the treatment. Unfortunately, the disadvantages connected with the exposure of the face (loss of hair, etc.) make the treatment of little use for that situation; but the hands are very easily treated, and three or four exposures of ten minutes each generally suffice to remove the eruption for the time. I have seen nothing to support the statement that the exposure of one part in any way influences the eruption on other parts.

In very widespread cases, where large areas of skin are inflamed, infiltrated, and tending to crack, what we may call the specific treatment of Psoriasis must be given up,

and attention must be directed to soothing the skin by mild remedies. Hebra's ointment or zinc ointment should be spread on freely, and no more active treatment should be thought of until all these additional signs of irritation have disappeared.

PITYRIASIS.

(πικρὸν—*bran.*)

Pityriasis means scaliness, and nothing more. The name indicates no relationship between the diseases so entitled, and the use of the simple term is merely a pedantic method of concealing ignorance.

PITYRIASIS ROSEA.

(PLATE XVIII.)

This, though a comparatively rare disease, occurs more frequently than is generally supposed, for cases are often incorrectly diagnosed. A typical case runs a very clear and definite course. Without any previous symptoms, there appears on the trunk, somewhere in the region of the waist, as the "herald" of the disease, a reddish yellow spot which expands into a patch, circular or oval in form, very little elevated, with a rosy red border and a dull yellow centre. The shade of yellow which forms the centre is sometimes described as fawn coloured; frequently it very closely resembles chamois leather. Often enough this patch is entirely overlooked, and the first the patient knows of the disease is about a week later, when the whole trunk becomes covered with a profuse eruption of spots similar in nature, though smaller in size than the original one. All of them do not expand into circles; many remain as spots, and to this variety of the disease the name Pityriasis rosea *maculata* (macula, a spot) is applied. When they do expand into circles the adjective *circinata* is employed instead. *Plate XXII* shows all the stages of the disease—the large "herald" patch, and smaller circinate and macular lesions. Too much stress must not be placed on the detection of this "herald" patch; in many cases it cannot be identified.

The eruption is usually limited to the trunk. A few spots may be found about the shoulders, and a few on the thighs, but it is rare on the face and on the distal ends of the limbs. Exceptionally, the eruption is limited to the

PLATE XXII.



PITYRIASIS ROSEA

limbs. In spite of the name, there is not often much scaliness. If a circular patch is scratched with the finger nail, a certain amount of fine scaling may be produced, but it is rarely obvious. After a duration of from five to eight weeks, the eruption gradually disappears.

DIAGNOSIS.—The diseases with which this may be confounded are syphilis, ringworm, and seborrhœa. A confusion with the first is the most frequent error, and as the disease disappears spontaneously in about six weeks, this is put down to the effect of the mercury which has probably been administered. It is needless to say that none of the other signs of that disease are present. There are no enlarged glands, no affection of the throat, and, further, the eruption itself is flatter, and differs altogether in colour from the eruption of syphilis.



Fig. 25.—Pityriasis rosea. A little increase of the cellular layer of the epidermis, no granular layer. The increased horny layer which was closely adherent was detached in preparation. A few leucocytes in the corium; $\times 50$.

From ringworm, with which it is still confused by the Vienna school, it may be distinguished by the fact that there are no vesicles on the advancing border, by the sudden appearance of the eruption and, negatively, by the absence of any fungus.

From seborrhœa it differs, firstly, in its distribution. While that disease is common enough on the trunk, it is also found on the scalp, face, and limbs. Further, the border of the spots in seborrhœa is *more raised*, a few papules are often present, and there is a much *greater tendency to moisture and to scaling* than in this disease.

The cause is unknown. No organisms have been found which could be definitely associated with it, and there is no similarity in the patients whom it attacks, such as employment, age, sex, or the like. When a section is examined the possibilities of scaling are evident. Thus, in the drawing (Fig. 25) the superficial layers of the horny

layer have been partly detached in preparation, and are seen separated from the skin, although there was no evidence of this when the spot was removed from the patient. There are signs of slight proliferation of the epithelium, while the corium is rather more cellular than normal.

The disease gives rise to hardly any discomfort ; a very mild degree of itching is experienced by some patients, and this frequent absence of itching no doubt contributes to its confusion with syphilis.

PROGNOSIS.—This is always good : even if no treatment is applied the disease gets well, and there is no tendency to recurrence.

TREATMENT.—It is a common view that the treatment of this disease is in general not very satisfactory. That view I have long taught and until recently shared. I have, however, learned from Dr. Allan Jamieson that it is erroneous, and that Pityriasis rosea is more rapidly amenable to treatment than the majority of skin diseases. The patient should be soaked daily for half an hour in a bath to which two or three teaspoonfuls of *Condy's fluid* have been added, after which *salicylic vaseline* (3–5 per cent) is freely applied to the skin. In twenty-four hours there are usually marked signs of improvement, and in a week or ten days most cases are well.

PITYRIASIS RUBRA.

(*Dermatitis exfoliativa.*)

“Red scaliness” is a term which is applicable to a good many conditions, and the definition of Pityriasis rubra varies in its extent according to the observer. Some only include under this heading the cases which correspond to the type described by Hebra, while others include cases which succeed widespread attacks of other skin diseases, and even cases which most regard as eczema. The discussion of the fine distinctions would be out of place in such a work as the present, and while admitting that there are likely enough distinctions between the varieties, I propose to consider them all together.

It may be taken, then, that the disease may arise either spontaneously, or may succeed one of several skin diseases. The commonest is psoriasis; but it may follow eczema, lichen, dermatitis herpetiformis, or erythema multiforme

and apparently in some mysterious way develop out of these. The form of psoriasis which it most frequently follows is the moister variety, the more "eczematous" one, and such cases are sometimes known as *Pityriasis rubra seborrhoica*. They are often directly traceable to the too free and too long continued use of chrysarobin. Even weak ointments of chrysarobin should never be continued for more than a month, and not so long unless under direct supervision. Usually the result is the transformation of the dry into a moist, weeping eruption, but in exceptional cases "*Pityriasis rubra seborrhoica*" develops. The disease is characterized, as its name indicates, by intense redness and abundant desquamation, but perhaps its most prominent characteristic is a negative one, namely, the absence of infiltration and thickening of the skin. Although the patient looks like a boiled lobster, although shovelfuls of scales may be removed from his bed in the morning, the skin *feels* but little affected. Commencing, when it does commence independently, as a number of small spots, the disease rapidly spreads until nearly the whole surface of the body is affected. In connection with its development from any of the diseases mentioned, while frequently the history points to a misuse of chrysarobin or some other irritating drug, cases occur where, in the course of a night, the disease undergoes a complete transformation, and the patient who at one visit was suffering from psoriasis, is at the next found to be the subject of a typical *Pityriasis rubra*. The diagnosis should not be difficult, but it is so easy in the presence of redness and scaling to ignore the negative character of absence of infiltration and to call a case exfoliative dermatitis, that stress should be laid upon this point. A scaling eczema with exudation is quite another disease. The fluid which is occasionally present in cases of *Pityriasis rubra* is not exudation, but probably merely sweat; it does not stiffen linen. Further, though it may be very widespread, eczema is rarely universal, while this disease, when fully developed, usually is.

The *cause* is unknown. Its sudden appearance in the course of another malady has led some to place its origin in the central nervous system. But two fatal cases of Crocker's, in which the nervous system was carefully examined by Dr. Mott, showed no change whatever. Others regard it as of parasitic origin, but though organisms

may be found in the scales, it has not been possible to relate them definitely to the disease. A number of cases have first appeared after exposure to cold, so that this is evidently a factor in their development, though the time has gone by when cold was looked upon as the cause of a disease. Crocker holds that there is a relation between rheumatism and gout and this disease, these having been present in a number of his cases ; while Jadassohn has found tuberculosis in a large proportion of his. The fact that these are not invariably present shows that they have at most only a secondary influence. Shock, and a number of these other causes about which one can prove nothing, have been instanced as influencing an attack, but candidly we know nothing of the real cause.

PROGNOSIS.—This is bad, especially in those cases which arise spontaneously. Many cases die, some directly from exhaustion, others from some intercurrent disease to which weakness has predisposed, and those who recover are very liable to have a second, third, and final attack of their malady. The chronic hyperæmic condition of the skin renders the patient very susceptible to cold, and pneumonia is frequently the cause of the fatal issue.

TREATMENT.—The first indication for treatment is derived from the history of the development of the disease. Having seen how cases develop from over-treated psoriasis, it is very clear that only mild remedies should be used. During the acute stage the patient should remain in bed in a warm room, and every precaution should be taken against cold. The applications should be of the mildest. Hebra's ointment, weak tar lotions, or weak carbolized oil may be tried ; according to Morris mercurial applications aggravate the disease, and should never be employed. Internally, probably the most useful medicine is *antimony*, small doses of the wine being given at frequent intervals. Quinine and thyroïdin are often useful. Arsenic should never be given until the case has become distinctly chronic, and even then only if it has begun to show some signs of improvement. If there is any active inflammation it is almost sure to be aggravated by arsenic. The diet should be light but nutritious, and cod-liver oil is generally useful. Alcohol, and any foods which may cause flushing of the skin, should be absolutely forbidden. Baths should be tempered by the addition of bran or starch (page 20). When the acute stage is past, and the patient insists on going about

again, special precautions against cold must be constantly taken.

PITYRIASIS RUBRA PILARIS.

Red scaliness around a hair. The mere mention of this disease in dermatological circles always arouses the dispute as to whether the disease is or is not identical with Hebra's Lichen ruber acuminatus. The general opinion seems to be that the two diseases are the same, and though there are still some who maintain the distinction, it must be admitted that it is an exceedingly difficult point—without the assistance of Mr. Stead and his spooks—to determine what a person who has been several years dead, recognized under any particular name. The disease is rare, and consequently the opportunity of settling the question does not often arise. Only one case has come under my observation in this country, and the opportunity of observing it I owe to my friend Dr. Morton of Glasgow. In this patient, a boy aged about twenty-one, the disease was preceded by an illness so severe as to lead to his being treated for some time as a case of typhoid fever. The eruption developed later, and when I saw him he showed two of the forms characteristic of the disease. On the arms there were numerous follicular papules apparently surrounding the hair follicles. They were about the size of a millet seed, and were of a yellowish brown colour. They were not markedly acuminate, but rather flattened on their apices, and their most prominent characteristic was their colour. On the chest the spots had coalesced to form what is described as erythrodermia, or the red-skinned stage, and large tracts were affected, though in most places the origin from the union of papules could easily enough be made out.

There is one aid to the diagnosis of this rare disease which is almost invariably present, viz., the appearance on the backs of the first and second phalanges of the fingers of blackened spots around the hair follicles, which give the skin a rough, file-like feeling. This description does not accord altogether with that given in some books, where the acuminate character is emphasized. There the papules are described as small, red, dry, and harsh, and each as surmounted by a single atrophied hair. The feeling and appearance of the skin is compared to that of a newly-plucked fowl. On the scalp and face the papular character

is not so marked, and in these situations the disease closely resembles ordinary seborrhœa. Mr. Morris states that the general health is never affected, but in Dr. Morton's case, which was also seen by Prof. M'Call Anderson and Dr. Jamieson, the patient was seriously ill. The disease may last for years.

TREATMENT.—Some cases improve under *arsenic*, while others are apparently aggravated by it. General tonic treatment is usually indicated. *Pilocarpine* or *jaborandi* may be given to promote sweating, and weak preparations of oil of cade or pyrogallol may be applied locally. If these produce irritation they must be stopped, and soothing remedies applied.

ICHTHYOSIS.

(*ἰχθύς*—a fish.)

Ichthyosis, or the fish-skin disease, though fortunately rarely seen in its severer forms, is in the milder ones by no means uncommon. The numerous named varieties are better considered as simply different manifestations of the one complaint. To this, however, one exception must be made, for the disease known as Ichthyosis hystrix, in which the morbid condition is found, *e.g.*, on one limb, or apparently following the course of a nerve round the body, is really a variety of nævus. The different adjectives added to the name—*I. serpentina*, *sauroderma* (crocodile), etc.—are simply descriptive of an apparent resemblance to the lower animals.

The mildest variety goes by the name of xeroderma (dry skin). In this form the patient is only conscious, in the colder months, of a dryness of the skin, and a slight tendency to scaliness at certain situations—the knees, elbows, and axillary borders. The secretion of sweat is greatly diminished; many patients declaring that they do not sweat at all. As the disease spreads it tends to affect the extensor surfaces, and these are occasionally the seats of a moist eruption, which it is, however, an exaggeration of terms to call eczema. From this mild variety there are all degrees up to the severest cases, where the patient is covered almost entirely by large horny masses, and the skin resembles rather that of a reptile than of a human being. *Plate XXIII* illustrates the more commonly occurring form of the disease. On the back and the arms

PLATE XXIII.



ICHTHYOSIS.

PLATE XXIV.



ICHTHYOSIS.

the partitioning of the skin into little lozenge-shaped areas, like the scales of a fish, is fairly well shown, while, as we approach the axillæ the disease is more marked, and the little blackened horny masses are prominent. In the severer forms these increase in size and length, and may be as much as a quarter of an inch in diameter and three-quarters of an inch long. Through the kindness of Dr. Byrom Bramwell, I am enabled to give an illustration of the legs and arms of the worst case of this disease I have ever seen (*Plate XXIV*). The case is fully described and illustrated in Dr. Bramwell's *Atlas of Clinical Medicine*. It will be noted that the palm is unaffected.

Even in the severest cases certain regions are usually spared. The palms and soles are very rarely affected.* The face never shows such marked horny excrescences as does the rest of the body—although in the mildest cases there is often a good deal of moist catarrh on the forehead—and the flexures at the elbows and knees are long spared. In the milder varieties there is little beyond a mere roughness, but as the scales accumulate they become black, not from dirt, but from excessive cornification, in which blackening always tends to occur. The same phenomenon is seen in the blackening of the head of the comedo.

The disease is usually described as congenital, but it rarely appears before the end of the first, and often well on in the second year of life. Cases have been described where it has developed in adults, but these are very exceptional. Confusion has resulted from its being erroneously connected with what is known as congenital ichthyosis, the disease figured in many books as the "Harlequin" foetus. Although both diseases show excessive cornification as a prominent feature, there are certain differences so marked as to make it unlikely that they are the same. For example, in hyperkeratosis congenitalis, as it should be called, the palms and soles are invariably affected, while in Ichthyosis they are the last regions attacked. Heredity is, however, undoubtedly a factor in Ichthyosis, and the disease shares with xeroderma pigmentosum the peculiarity that it shows itself usually only in one sex in a family. There is no evident preference for one over the other, but in one family

* Dr. Jamieson had in his ward this summer a little girl in whom the palms, soles, flexures, in short, all the parts usually spared, were the only parts affected.

most of the boys may be affected, and in another all the girls, the opposite sex remaining perfectly free.

The cause is unknown. Unna places it among the infective inflammations, and it is interesting to know in this connection that in Styria it is said to be as common as is psoriasis in this country. No organism, however, has been found. On examining a section of the skin, the changes are so striking that one has no difficulty in recognizing it at a glance. The epidermis is thin, the horny layer is markedly thickened, and the papillæ have a peculiar Alpine arrangement, reminding one of those pictures of the relative heights of the mountains of the world which appear at the bottom of maps (*Fig. 26*). Although the sweat and



Fig. 26.—Ichthyosis. Horny layer increased, rete thin, "Alpine" papillæ, some cellularity of the corium: $\times 50$.

sebaceous secretions are diminished, both sets of glands are found on examining the skin. The subcutaneous fat is notably diminished. The amount of irritation in the skin, as shown by the presence of leucocytes and proliferating connective tissue cells, depends on the stage of the disease. If the piece examined has been removed during a quiescent period, they are practically no more than normal, while if removed during an attack of "eczema," they are of course numerous.

DIAGNOSIS.—This, in an advanced stage, is very easy. No one could possibly mistake a well-marked case. Those difficult to diagnose are the slight ones, especially where, perhaps, a moist catarrh has directed one's attention away

from a disease so associated with dryness as Ichthyosis. There are, however, certain peculiarities about this moist catarrh which should arouse the suspicion that one is not dealing with an ordinary case of eczema. The distribution is almost always on the extensor surfaces, and if the diagnosis is not made it will generally be found that treatment is by no means so successful as it would have been had the case been eczema. In every patient with a moist catarrh on the extensor surfaces, especially if there is a history of its recurrence winter after winter, the regions where Ichthyosis is generally most developed should be examined. The knees and elbows, especially the former, are in so many people the seat of a certain amount of scaling, that most information is to be derived from the examination of the axillary borders. Either anteriorly or posteriorly there will be found here some evidence of the disease. Prurigo, which also attacks the extensor surfaces, which is occasionally moist, and which is also a disease dating far back in infancy, is so rare in this country that it need be only exceptionally considered. The nutmeg-grater character of the skin, the enlargement of the glands, and the greater itching, combined of course with the absence of any signs of Ichthyosis, should easily enable one to diagnose prurigo. From psoriasis, which also affects the elbows and knees, there should be no difficulty in diagnosis. Sometimes, it is true, the scales of psoriasis do take on a greenish colour, but they are heaped up in masses, and there is never the areated, mosaic arrangement which is so constantly seen in ichthyosis.

PROGNOSIS.—It is difficult to lay down the prognosis of any given case. The danger to life is practically *nil*; the prospects of improvement are excellent; but the hope of complete recovery is by no means good.

TREATMENT.—The main object of treatment is to supply to the skin the *fat* in which it is so markedly deficient, and if a sufferer will take a daily bath, and grease himself regularly with lanolin, vaseline, or some similar preparation, he can keep himself in a condition of comparative comfort. While this inunction of fat is followed by great amelioration of the symptoms, it cannot, of course, be expected to do much to cure the disease, especially if we are to regard it as an infective inflammation. Therefore various drugs of an antiseptic nature should be incorporated with the ointment base. Of these drugs the most generally used are *sulphur*,

ichthyol, β -*naphthol*, *resorcin*, and *salicylic acid*. One or other of these may be combined in the proportion of 5 to 10 per cent with the ointment, and one usually has, unfortunately, ample opportunity to compare the relative value of the different preparations. Internally, *pilocarpine* is of undoubted value. It may be injected subcutaneously, or the tincture or syrup of *jaborandi* may be given by the mouth. Small doses of nitro-glycerine frequently repeated have proved useful in some cases. Arsenic and cod-liver oil are also recommended, and the latter of these, by *increasing the subcutaneous fat*, almost always does some good. While thyroid substance is not a remedy to be recommended in a disease such as psoriasis, where one has numberless remedies of well-approved value, in this complaint, which is so chronic and so obstinate in its response to treatment, one is justified in using with caution remedies which do carry with them a certain amount of danger. The patient's susceptibility should be carefully tested, and the dose always kept well below that which would induce toxic symptoms. *No patient should ever continue to take thyroid tablets except under medical supervision.* The amount to be taken depends entirely on the individual. With some, one 5-grain tablet a day is sufficient, while others can take without harm five or more.

To those to whom their place of residence is a mere matter of choice, some warm, moist climate should be recommended; for residence in a cold, exposed, windy district is certain to lead to constant attacks of moist catarrh, with its accompanying discomforts.

INFLAMMATIONS OF THE DEEP EPIDERMIS.

(GLANDS AND FOLLICLES.)

ACNE.

(PLATE XXIV).

(ἀκνῆ, quasi ἀκμή—a *point*, or the *bloom* of anything).

This term was probably applied to the disease by reason of its association with adolescence, since it was looked upon as the bloom of youth. The essence of the disease is the plugging of the mouths of the sebaceous follicles by

PLATE XXV.



ACNE (INDURATA).

1871. Lippincott & Co. Philadelphia, Pa.

a comedo,* familiarly known as a "*black-head*." The comedo itself is a minute oat-shaped body; the long coil of yellow material which can be expressed from the gland is retained secretion, and not part of the comedo proper. While many of the comedones remain as such, others set up irritation, and the distended gland becomes converted into a pustule, at the apex of which the comedo is still evident. In some cases the suppuration is deep, and considerable abscesses are formed in the depth of the skin, often from the union of several adjacent follicles. In others again there is connective tissue thickening, and to this form the name *Acne indurata* is applied.

The disease is practically confined to the period of adolescence, being most common between the ages of sixteen and six-and-twenty. After thirty it is rare, so rare that the *appearance* of a disease simulating acne after that age, should always lead to careful inquiry as to whether the patient has not been taking some drug, especially iodides or bromides.

It affects both sexes equally, though perhaps the severest cases are seen in the male. The parts of the body usually affected are the face, the chest, and the back. Exceptionally it spreads further down the trunk and to the limbs. The skin is always greasy, anæmic, and flabby from want of tone in the cutaneous muscles.

ETIOLOGY.—The older authors gave several ingenious explanations of the cause of this disease, the commonest being, that it was associated with the increased activity of the skin and the development of hair at puberty. Acne has in the last few years been the subject of much careful investigation, and while there are doubtless many predisposing and contributory causes, there is little doubt that the actual cause of the disease is the organism now known as the *Bacillus acnes*. This was first described by Unna, but also independently by Gilchrist and Sabouraud. The views of the last named have attained the greatest publicity, and although his conclusions are not by any means universally accepted, his observations are of extreme interest. It must be borne in mind that he regards this one bacillus as the cause of what we have

* Latin *comedo*, to eat up. The comedo was supposed to be a species of worm.

been accustomed to regard as three distinct diseases, seborrhœa, acne, and alopecia areata.

If any abnormally greasy skin be carefully examined with a lens, it will be found that the mouths of the sebaceous glands are corked by little greyish yellow masses. To these Sabouraud has given the name of "Cocoons." When examined under the microscope they are found to consist of some epithelial cells, a large amount of grease, and millions of short, thin bacilli. This is the first stage in the development of the comedo, the further development into the little hard, shiny, oat-shaped body, only takes place in a small percentage of the cocoons. According to Sabouraud, this bacillus stimulates the secretion of the sebaceous glands, and alters it so that it becomes a fluid instead of a solid fat. He further believes that the organisms produce a toxin which poisons the hair, and thus leads in ordinary cases of seborrhœa to baldness, and in alopecia areata, which he regards as an acute circumscribed form of seborrhœa, to a complete loss of hair. With the further development of his views I do not agree, but the development of a comedo from one of among twenty or thirty cocoons which remain as such, is a fact which anyone can observe.

Gilchrist's work was on somewhat different lines, for he examined the later stages of acne, the pustules. In them he found, among the pus, masses of bacilli, which he was with some difficulty able to cultivate. Experimental inoculation showed them to be possessed of marked pathogenic properties, but he was unable to reproduce the actual disease. As he says, contributory causes are doubtless necessary. To him the organism owes its name.

Both Unna and Gilchrist have demonstrated that the softening and suppuration which it was the custom to ascribe to accidental inoculation with pus cocci, are attributable to the bacillus.

There are many clinical facts in favour of the infective nature of acne. Although in such a common disease evidence of direct infection is of course very difficult to obtain, cases of auto-infection are not infrequently seen. Treatment by massage, if carried out in an unskilled manner, is exceedingly apt to spread the disease, the organisms being probably massaged out of one follicle into another. At all events, the germ theory requires less roundabout explanation than does the developmental one.

When a spot is examined microscopically, we find the mouth of the sebaceous gland plugged by the comedo. This little oat-shaped mass is composed of concentrically arranged horny layers, more closely packed at the upper part, and showing there the black colour which characterizes the extreme degree of cornification. The same is seen in advanced cases of ichthyosis and in cutaneous horns, and it is not due to dirt. Beneath, the gland is filled with broken-down sebaceous material, all trace of glandular epithelium is usually lost, and the cavity is lined with a horny layer resembling that of the skin (Fig. 27).

When the disease has reached the pustular stage, the wall has usually broken down, and the abscess cavity involves the surrounding tissues to a greater or less extent.



Fig. 27.—Section of an early lesion. The orifice of the gland is plugged by closely-packed layers of horny matter—the comedo. All sebaceous structure is gone, and the gland is lined by horny layer. Some softer material in the centre has dropped out in preparation; $\times 50$.

If left to itself, the disease tends to progress steadily, the comedones slowly increasing in number. The amount of suppurative change depends to some extent upon the health of the individual, though persons in the most vigorous health may have their faces disfigured by a profuse eruption of pustules.

DIAGNOSIS.—The presence of pustules on the face is not enough to found a diagnosis upon. The essential element of the disease is the comedo; and it is only when that obviously forms the starting point of each pustule, that the diagnosis is justified. There are many pustular eruptions on the face besides Acne.

PROGNOSIS.—Almost all cases are curable by time, and if a patient is willing to wait until he enters the thirties,

there is no occasion to do anything. Unfortunately, though "*tempus varos curat*," the scars left by it are often almost as disfiguring as the disease, and an Acne scar is in many cases the starting point of keloid. Comparatively few persons are willing to leave their cases to nature, and in dealing with the prognosis we have to consider a number of factors. One of the most important is the general condition of the patient; if in bad hygienic condition and insufficiently fed, his acne is likely to continue. Various abuses, too, if indulged in, interfere with improvement, but the great element in prognosis is the diligence with which the patient carries out treatment. The main factors, then, in the cure of a case are time, health, and perseverance.

TREATMENT.—In the treatment of Acne it must be kept in mind that we have invariably hyperkeratosis, anæmia, flaccidity of the cutaneous muscles, and an excessive amount of oily secretion, all probably due, directly or indirectly, to the bacillus. With regard to general treatment, it is evident enough that they are all conditions which can be improved by general tonics. The patient should take plenty of exercise in the open air, plain food, all greasy articles of diet being avoided—and, in short, get into as good condition as possible. In girls, constipation and anæmia are very frequently present, and these must be treated.

There is no drug which has any specific influence on Acne, with two exceptions. When there is much induration around the individual lesions, *sulphide of calcium* given in pills, $\frac{1}{8}$ of a grain three or four times a day, has in some cases an influence in promoting either their absorption or more rapid softening. *Yeast* is an old-established popular remedy, and *levurine* its supposed active principle, may be tried if fresh yeast is not readily obtainable.

The discovery of an organism as a probable cause of the disease has, of course, stimulated belief in the efficacy of local treatment. Again bearing in mind the factors of hyperkeratosis, excessive secretion, anæmia, and flaccidity of muscles, we find that there is one treatment which has an influence on all four, *viz.*, the vigorous application of soap, the alkali of which removes the excessive oily secretion and the thickened horny layer, while the friction with which it is applied promotes hyperæmia and stimulates the flaccid muscles. Soap alone, combined with friction,

will cure a great many cases, but it is usual to associate with it some drug which will assist in its action. Long before organisms were even thought of, *sulphur* had established itself as of value in the treatment of Acne, and sulphur combined with some form of soap is still the most efficacious treatment. With regard to the form of soap with which it should be combined, opinions differ very much. Some, considering that the alkali in soap is responsible for many disagreeable effects, recommend that an over-fatty soap should be employed. Others use the soap liniment of the Pharmacopœia, while others again use Hebra's soap spirit, a strongly alkaline preparation. Seeing that we have to deal with a skin rich in fat, which the alkali of the soap removes, over-fatty soap, theoretically, is of little value. But any soap, no matter how fatty, when combined with water gives off some alkali, and the over-fatty ones are probably simply less active than others in the same direction.

It will probably conduce to clearness if the methods of treating cases of different severity are described in detail. The patient whose skin is dotted with comedones, and in



Fig. 28.—Comedo extractor.

whom suppuration is at a minimum, should every night steam the face over hot water, and then bathe it. With a suitable expressor the comedones should be extracted. The common practice of squeezing them out with the nails, or the more objectionable one of using a watch-key, is in my opinion worse than useless. The watch-key method, especially, is exceedingly painful, bruises the skin to which it is applied, and, by forming a *locus minoris resistentiæ*, hastens the development of the pustule which it was intended to prevent. Everyone has his favourite form of comedo-extractor, and the annexed diagram (Fig. 28) shows one which at all events has certain advantages. It can be applied accurately over the comedo, which remains in sight, and the edges being carefully rounded there is little risk of damaging the tissues. The comedo should be expressed by a shaking movement, and not by

brute force. When all the prominent comedones have been removed, the face should be rubbed with some sulphur-containing soap. One of the best is the sulphur, camphor, and Peru balsam soap, originally introduced by Eichhoff, and now made by all medicated soap manufacturers. With a shaving brush an abundant lather is produced, and this is rubbed for a few minutes into the skin. For the first few days it is wiped off with a damp cloth, but as the skin becomes habituated to its use it may be rubbed in over an increasingly longer time, until eventually it is rubbed in entirely and there is none to wipe off. Few skins can stand the continuous use of this soap, and it is desirable that on one night a week the skin should be simply anointed with vaseline or cold cream.

If the comedones are very numerous, and the skin, as usual in such cases, is tolerant, other mechanical means of removing them are handier than the expressor. If a soap combined with sand is used occasionally, it rubs away the upper portions of the comedones, and thus facilitates the action of the medicated soap. For well-to-do patients "marble sand" soap may be ordered, but the much-advertised article which "won't wash clothes" is equally efficacious. Once a week is often enough to use these sand soaps. On the other days the sulphur soap should be used.

Another method of applying sulphur is Vlemmingkx's solution: 10 parts of sulphur, 20 of quicklime, and 200 of water are boiled down to 120 parts in an iron vessel. At first this is diluted freely with water (1-5), and it is simply dabbed on at night after bathing the face. The strength is gradually increased as tolerance is established, until the pure solution is used.

Where pustules have developed, these should be opened and evacuated. Some apply to their interiors strong carbolic acid, the result of which is to cause quite a considerable slough. As a general rule, if the pustules are properly opened and squeezed out, they do not tend to re-form. The presence of a considerable number of pustules does not altogether interdict the soap treatment. The general benefit is so great, that patients may well endure the small extra discomfort. Where, however, the parts are very much inflamed and the pustules very numerous, sulphur may be applied in lotion along with calamine, instead of in the more active form of

soap. The following is the prescription used in the Royal Infirmary :—

R Sulph. Præcip.	℥j
Calaminæ	℥ij
Zinci Oxidi	℥iij
Glycerini	℥j
Aquam Destill. ad	℥iv

Sig.—Shake and paint on with a brush.

Under this more soothing treatment the evidences of irritation will diminish, and the soap treatment may then be resorted to. If the pustules are very numerous and large, so much so as to amount to cutaneous abscesses, they must have more thorough treatment, being freely opened, and kept open until the cavities close up. During this treatment the face should be bathed at intervals with an antiseptic lotion, either boracic acid or perchloride of mercury, in order to diminish the risk of further inoculation of the raw surfaces from without.

A method of treatment which has certain advantages, but which has not attained much popularity in this country, is “shelling” the skin with resorcin. Equal parts of resorcin and Unna’s zinc paste, thickly spread, are applied to the skin twice daily for three or four days. At the end of this period some soothing ointment is applied, and in a day or two more the skin peels off in large flakes, bringing with it the hyperkeratotic horny layer and a large number of the comedones. The method involves confinement to the house, and in that respect is disadvantageous, but it does more in a week than probably two months of the milder treatment will accomplish.

As already indicated, the treatment must be prolonged and persevering. Even after all signs of the disease have disappeared, the patient should go through the soap treatment once a week. In view of Sabouraud’s theory that seborrhœa of the scalp is intimately associated with acne, an observation which undoubtedly has a certain amount of clinical support, the scalp should be examined for seborrhœa, which, if found, should be treated appropriately.

Some cases of Acne improve marvellously under the X-rays; and the same may be said in regard to high-frequency currents. But both are often disappointing in apparently suitable cases, and the depilatory effects of the

rays of course greatly hamper their utility when the eruption is on the face.

Acne Varioliformis.—This is a rare and much severer disease than *Acne vulgaris*. It occurs most commonly on the face and scalp, and commences as a firm reddish papule, not as a comedo. This becomes surmounted by a pustule, and then a considerable necrosis takes place in the centre, which when thrown off, leaves a resulting scar closely resembling that of variola. Sabouraud says that it begins as a cocoon, and is essentially the same disease as *acne vulgaris*.

Some look on all cases as syphilitic in origin, and there is frequently a history of this disease.

TREATMENT.—*Iodide of potassium* is generally useful; cod-liver oil and iron are sometimes of value. Locally, some mild antiseptic ointment should be applied.

SYCOSIS.

(σῦκον—a fig.*)

Although the comparison may not be strictly correct, sycosis is best understood by the student as an acne of the beard regions. It consists in the appearance of pustules in the hair follicles of that region. In the acne region the hair follicle is a mere appendage of the sebaceous gland; in the beard region the relationship is reversed. The term is still applied a little loosely, though we have clearly removed from its scope the old sycosis menti or ringworm of the beard.

All affections of that region are liable to lead to pustules, and in order to differentiate sycosis clearly from the others, it will be useful to consider them for a moment together. The four common affections are sycosis, ringworm, eczema, and impetigo contagiosa. Impetigo contagiosa is most easily separated from the others; it is more rapid in its development, and the character of the crusts produced is usually very typical. When the crusts are removed, the skin beneath is seen to be very little reddened; there is, however, more moisture than when the disease attacks

* There is not much resemblance traceable to the dried fig familiar in this country, but the pink centre of a fresh ripe fig with the yellowish-white seeds dotted through it, is somewhat suggested by the reddened skin and the yellow pustules of a typical case of the disease.

the non-hairy skin. In the other three diseases, pustules form around the hair follicles, and in separating them from each other one has to lay stress upon the *prominent* feature in each. Pustules are common in ringworm, when the affection is derived from one of the lower animals, but even in such cases there is almost invariably one characteristic which enables the diagnosis to be made at once. That is *the presence of deep hard nodules* scattered here and there over the affected area, the hair over which usually comes out much more easily than that on the surrounding skin. The real difficulty in separation lies with the two remaining ones, and more than one dermatologist of eminence refuses to recognize any distinction between them. The difference is that in Sycosis the pustules around the hair follicles are the predominant lesion, while in eczema they are secondary to the general inflammation of the skin. The pustules in Sycosis are much more numerous and much more distinctly in relation to the hair follicles than are those of eczema. The difficulties of diagnosis are increased by the fact that in Sycosis there is almost invariably a certain amount of dermatitis and reddening of the intervening skin, and in some cases it is indeed impossible to draw a distinction.

Of the two, Sycosis is the more serious condition. The infection is deeper, and consequently more difficult to cure. The disease is most common upon the cheeks, where the number of pustules, each surrounding a hair, may be very great. It is less common on the moustache region. That portion of the upper lip immediately below the nostrils is often the seat of an affection often confused with sycosis. It is really, however, a dermatitis brought about and kept up by the irritating discharge of a nasal catarrh, and no amount of local treatment will do any real good until the catarrh is cured. The disease comes within the sphere of the rhinologist, but many cases are easily enough cured by careful and frequent syringing of the nostrils with weak boric acid lotion (grs. iv- $\overline{3}$ j).

Another form of eruption resembling sycosis occurs in individuals with very strong beards. A number of pustules are present, usually under the chin, and these when closely examined are seen each to surround a hair the free end of which has not escaped from the skin, but is growing downwards as it enlarges, and thus is producing irritation. With a little trouble the buried end may be

disinterred, and the pustule disappears. No local application can do anything for this deformity, which if troublesome is best treated by allowing the beard to grow.

ETIOLOGY.—Bacteria are certainly responsible for sycosis. The sheath of the extracted hair, and the drop of pus which follows its extraction, teem with staphylococci, and proof of their causal relationship with the disease can easily enough be obtained by anyone who chooses to make the experiment. A rarer form of the disease is the bacillogenic sycosis described by Mibelli.

TREATMENT.—The disease is always chronic, and has no natural tendency to disappear. In treating it the first matter for consideration is the question of shaving. On this point there is much difference of opinion, some maintaining that shaving tends to spread the infection and thus to aggravate the disease, and that the irritation of the razor is injurious. On the other hand the bulk of experience supports the view that the facilities for treatment given by shaving more than counterbalance these disadvantages. A half-way house may be found, if desirable, by clipping the beard. The soap treatment is not so eminently applicable here as in acne, often appearing to irritate the skin, although it is of great value in the later stages. Even in the earlier ones it is desirable that the patient should shave with some antiseptic soap, *e.g.*, the sulphur one already referred to under acne. The hair in the centre of the pustules should be extracted *before* shaving. This removes a certain amount of the contagion, and facilitates the access of the antiseptic used to those organisms which remain in the empty follicle. The case may then be treated by various antiseptic ointments: oleate of mercury, ammoniate of mercury, sulphur, or salicylic acid; whichever is selected should be very thoroughly rubbed into the skin, say for ten minutes twice a day. Weak preparations thoroughly applied are far more useful than stronger ones merely smeared on the surface. The X-rays are probably more useful than any other treatment in obstinate cases, unfortunately a large proportion. The reaction is often exceptionally severe, and great caution should be observed. When the hairs fall out the case looks so much better, that it is sometimes difficult to persuade the patient that any further treatment is required. But if nothing further is done, the disease will return with the hair. Some antiseptic ointment (*e.g.*, ung. hydr. nit. 3j,

ung. zinci ox. ʒj) should be vigorously rubbed in twice daily, and the new hair should be shaved when it appears. The result has been most satisfactory in the cases where I have produced permanent destruction of the hair.

In some obstinate cases counter-irritation may be applied, with the object of attacking the organisms from within. In many the application of perchloride of mercury in spirit (1-500) is followed by great improvement; it often blisters the part. Other counter-irritants, such as ordinary blistering fluid, may be used. Hodara recommends nitrate of silver in solution, 1-4 per cent.

When the disease is nearly well, patients are often desirous of re-growing their beard; this is a dangerous experiment. When, after perhaps two years of treatment, a sycosis has been subdued, the patient has commenced to grow his beard, the result often is that the disease returns with all its old intensity. To be safe, the hair should not be allowed to grow until quite a year *after all trace* of the disease has disappeared.

RINGWORM.

TRICHOPHYTOSIS (*τριξ, the hair, and φυτόν, a plant*).

Ringworm is caused by the implantation and growth of a fungus. The appearances produced vary so greatly on different parts of the skin, that it is desirable to describe the principal varieties in detail, rather than attempt to give any general description of the disease.

No subject in dermatology has been so much investigated and discussed of recent years as ringworm, and though research has not as yet done very much to increase our powers of treatment, our knowledge of the causes and varieties of the disease is immensely greater.

More than one disease is included under the clinical term Ringworm, and though clinicians are not inclined to follow the laboratory worker and admit that the number is practically indefinite, we are all more or less agreed on certain facts.

Ringworm of the Scalp, or Tinea Tonsurans, must be divided into two diseases, according as the fungus present is the small-spored (*Microsporon Audouini*), or the large (*Trichophyton megalosporon, endo- or ecto-thrix*).

It is unnecessary for the student to enter upon a study

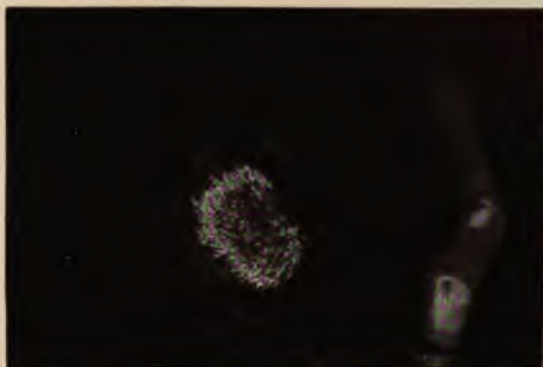
of the botanical relationships of the two fungi ; both cause a disease clinically known as Ringworm. The relative proportions of the two seem to have a curious relation to the parallels of latitude. In Scotland, most of our cases are caused by the microsporon ; in London, its proportion is between 80 and 90 per cent (Fox and Blaxall) ; in Paris, 60 to 70 per cent ; while in Italy nearly all the cases are caused by the trichophyton. Too much stress has been laid on the relative size of the fungus elements in the two diseases, for after all they differ comparatively little. Their arrangement is a much sharper distinction ; those of the microsporon are arranged irregularly in a *mosaic*, those of the trichophyton in the form of chaplets of beads, or *rosaries*. The terms large- and small-spored have, however, provisionally established themselves, and are in general use.

Ringworm of the scalp is practically restricted to childhood. Most cases commence between the ages of seven and twelve, and even if left entirely alone, the disease dies out about the age of fifteen. (Ringworm of the scalp is so exceedingly rare in the adult, that nothing but the most overwhelming proof should ever lead a young practitioner to diagnose it. Of those cases so diagnosed which have come under my notice, very few proved to be really ringworm).

Small-spored or Mosaic Ringworm.—The first evidence of the disease is the appearance, or rather the discovery somewhere on the head, of a small rounded spot, partly denuded of hair (*Plate XXVI*). The size, of course, depends on the stage of observation. The hairs on the spot are short, dull, often *darker* than normal, and having completely lost their elasticity, are bent and twisted in all directions. If one could imagine a cow so tethered in a rich meadow that it was compelled to feed on a circular patch, the appearance that patch would have is the appearance of early, untouched ringworm. In grazing the cow tears the grass, and the portions left are bent and twisted in all directions. The surface of the skin is covered with greyish white scales (*see Frontispiece*), and often a reddish ring on which the hairs are shorter than in the centre, margins the spot.

This is the most typical form of the disease, but in many cases the infection is not so localized in spots, and irregular patches of varied size are found, on which broken (diseased)

PLATE XXVI.



RINGWORM.



KERION.

and healthy hairs are found alongside each other. This latter form is almost as common as the circumscribed one, and owing to its wide dissemination it is more difficult to cure.



Fig. 29.—Portion of Hair, affected with small-spored or "mosaic" variety of the fungus (*Microsporon Audouinii*). Stained by Morris's method; $\times 300$.

When a diseased hair is removed and examined under the microscope, it is found to be *sheathed* by a mosaic of fungus (Fig. 29), the elements of which are pressed closely together, so that their individual shape is altered. There may be seen, here and there, filaments of fungus, usually in the interior of the hair or in a portion of loose scale. The hair substance is broken up, and the free end has a brush-like aspect. Fig. 30 shows the appearance of the fungus when grown in a test tube, but for details of growth, etc., the reader is referred to the larger works and monographs.

Large-spored or Rosary Ringworm.—Two distinct clinical types are associated with this variety. In one, the hairs are broken off so short that the patch appears quite bald, and the fragments of hair appear in the follicles as black dots. Hence the name of "black-dot" ringworm applied to it by Aldersmith, while the baldness has led to its being christened by Liveing, "bald" ringworm. The stumps are so short that it is most difficult to procure one for examination,* and these cases are sometimes mistaken for Alopecia areata. This form is said to be due to a subvariety of the fungus which is distinguished as the "fragile" one. In the other variety of rosary or large-spored ringworm, where the fungus is "resistant," the hairs may be even longer than those of



Fig. 30.—*Microsporon Audouinii*.

* They can generally be removed by a Comedo extractor.

the mosaic or small-spored variety. But the cases differ clinically in the fact that in this variety there is very much less scaling than in the mosaic form. Under the microscope the fungus elements are seen to be

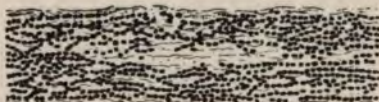


Fig. 31.—Portion of Hair affected with large-spored or "rosary" variety of the fungus (*Trichophyton megalosporon*). Stained by Morris's method; $\times 300$.

arranged in long rows (Fig. 31). They grow both inside and outside the hair, and in the majority of instances are probably larger than those of the other variety. Fig. 32 shows the crateriform growth typical of this variety of the fungus.



Fig. 32.—Crateriform growth of *Trichophyton megalosporon*.

Method of Examining the Hair.—It is essential that the hair examined should be one of the short broken ones. If no care be taken in the selection, the examination is useless. The old plan of examining the hair in a drop of liquor potassæ, is a satisfactory enough method for cases where microscopical examination is really unnecessary. If the hairs are obviously affected by ringworm, the caustic potash method confirms the diagnosis. If, however, there is any doubt as to the nature of the case, the method contains so many fallacies that it is of little value. Those not in the habit of constantly examining specimens are too apt to diagnose as "spores" the drops of oil emulsion which the potash causes by combining with the greasy elements of the hair, while the outlines of epidermic cells are too frequently mistaken for filaments of fungus. Cultures of the fungus can be stained quite well by Gram's or even simpler methods, but as a rule the hair itself takes up so much of the stain that special methods are required to dislodge it. Mr. Morris has done much to popularize staining, and probably his method is the best and handiest. The hairs are first steeped in a saturated solution of gentian

violet in aniline water.* If a very fine preparation is required, the hairs should be previously washed in ether to remove the grease. After ten to thirty minutes† in the stain, the hair is transferred to Gram's solution of iodine (iodine 1, iodide of potash 2, water 300) for two minutes. It is then placed on a slide, firmly dried with blotting paper, and a drop of aniline oil containing enough pure iodine to give it a light mahogany colour is applied. This removes the loose colour from the cells of the hair, while leaving it in those of the fungus, and in most cases the fungus is now readily seen under a low power of the microscope. If a more careful examination be required, the iodized aniline oil should be removed by pure aniline, a cover-glass placed on the top, and the specimen examined with the high power. If it is desired to keep the preparation permanently, the aniline must be washed off with benzol or xylol, and the hair mounted in Canada balsam.

While I do not propose to discuss the cultural peculiarities of the different fungi, a simple cultivation is sometimes of real practical value; this is specially so in cases which are apparently cured. If the scalp is very carefully searched, one or two short hairs not unlike those seen in alopecia areata may be found. These hairs, though they look suspicious, are in my experience very often not diseased, and for such the cultivation test is a much finer one than the microscopic.

It is not necessary to compound such elaborate media as are used in the laboratory. A very convenient one is made by the simple addition of from $1\frac{1}{2}$ to 2 per cent of agar to unfermented beer-wort. This is filtered, put into tubes and sterilized. As saprophytic organisms abound in the scalp, it is usually necessary to take some means of preventing their growth. As the reaction of the wort is generally acid, they do not grow vigorously, but they may usually be destroyed without serious injury to any fungus present by soaking the hairs for a few minutes in absolute alcohol. Some varieties of fungus, notably the beard form, will grow after so much as half an hour's soaking in alcohol, and my usual plan is to incubate several hairs which have been

* A solution of carbolic acid and gentian violet in water (5, 5—100) may be used instead of the aniline water dye, and has the advantage that it is always ready.

† The small-spored variety stains more rapidly than the large.

soaked for periods varying from two to ten minutes. It is not necessary to have a laboratory and an incubator. The tube may be placed upside down, in a tumbler on the kitchen mantel-piece, when in from three to ten days the growth will be evident.

Kerion (from *κηρλον*—*a honeycomb*).—I agree with all the English observers that this is a complication of ringworm that may occur whichever variety of fungus is present. It has been described as nature's method of curing the disease, although in it nature is more severe than she usually is in her cures. The whole patch swells up, the hairs fall out, the surface becomes red and glazed, and from the dilated follicles a certain amount of sero-purulent fluid can be expressed; hence the comparison to a honeycomb. The part feels boggy, and undoubtedly suggests an abscess. If an incision is made, there is, however, no pus to give exit to; and no benefit, indeed, the reverse is derived from incision. Very often the process affects all the spots on the patient's head; sometimes a few may be left unaffected. As the hairs are cast from the follicles, it is very evident that if the process affected all the diseased follicles, the cure would, though severe, be thorough. Unfortunately, a few hairs at the margin too often escape, and all the annoyance and suffering are in vain. In the case from which the accompanying illustration (*Plate XXVI*) was taken, the fungus was of the small-spored variety, and the patient's brother had ringworm without kerion.

Ringworm of the Body (*Tinea circinata*).—When ringworm spreads to the body, we see, just as in seborrhœa, how differently the scalp and other parts of the body respond to irritants. The irritant, in this case the fungus, which merely causes faint redness and profuse scaling on the scalp, causes on the non-hairy skin considerable redness, scaling, or the development of vesicles (*Herpes circinatus*). The scaly patches are usually circular, pinkish in colour, and often show a tendency to flatten in the centre. The vesicular patches spread more rapidly, and usually show the rings to which the disease owes its name. Not infrequently, when the disease has apparently left the centre, it re-appears, and concentric rings may develop. In certain regions, such as the groin and the axilla, where heat and moisture are present, the fungus grows with great rapidity, and the signs of irritation are so increased that this form of the disease is still commonly described as

Eczema marginatum. Commencing in the region of the fork, the disease spreads down the thighs, and, less frequently, up on the abdomen. It is usually easily diagnosed by its abrupt margin, and the fungus is easily found. This variety is common in hot countries, where it goes by various names (Dhobie's itch, crawl-crawl). It certainly lasts an unusually long time, but whether this is due to want of activity in treatment, or to climate, is uncertain. At all events, cases of tropical ringworm in that situation generally recover under treatment in this country, when the nature of the disease is recognized.

I certainly share the views of most British observers, that both forms of the fungus may cause body ringworm. It is true that on the glabrous skin the fungus elements are more apt to be large and to develop into filaments, than they are on the scalp, but this may probably be explained by the increased moisture and blood supply, brought about by the inflammatory reaction. Children, the subjects of small-spored ringworm of the scalp, so frequently have patches on the neck and face, that it is inconceivable that such patches are always due to the other variety of the fungus.

Ringworm of the Beard (*Tinea barbæ*).—The disease in this region presents itself in more than one form. It may appear as *Tinea circinata*, ringworm of the body, of which the skin of the beard region forms a part. Here we have the rapid development of a ringed patch, which is fortunately as amenable to treatment as *tinea circinata* generally is. The more common variety, the old *Sycosis menti*, is a deeper infection, and the process generally bears a close resemblance to kerion. Thus, the affected part is almost always swollen, nodular, and painful; in fact, in any doubtful infection in this region the presence of nodules should always suggest ringworm. The hairs do not break off so readily as in ringworm of the scalp, probably because they are stronger and more resistant. On cultivation, the fungus of beard ringworm shows differences from those found in other forms. The culture (*Fig. 33*) resembles a splash of plaster on a wall, and the surface has a characteristic powdered sugar appearance.



Fig. 33.—Culture of Ringworm of the Beard.

Ringworm of the Nails.—This is a comparatively rare affection, astonishingly so when one considers the facilities for inoculation of the nails in children, in whom it hardly ever seems to occur. When the nail is affected, it has a dull, opaque appearance, and tends to break. Sometimes the disease extends in a line, perhaps a quarter of an inch broad, some distance down the nail, without spreading to the lateral portions. It can only be definitely diagnosed by examining scrapings under the microscope.

TREATMENT.—When the cause of a disease is so accurately known as in this instance, treatment should theoretically be easy. Unfortunately, this is not so in practice, when the disease affects the scalp. The fungus is destroyed easily enough in the laboratory, but it is different when we are dealing with patients, the difficulty being to get the destructive agent brought into contact with it. Some, indeed, go so far as to maintain that it is useless to endeavour to destroy the fungus, and that all we can hope for is to provoke such a reaction of the skin as will *indirectly* cause its death. It may be admitted that in the majority of cases of ringworm of the scalp, means other than the *direct* destruction of the fungus are generally the more useful.

In **Ringworm of the Body** (*Tinea circinata*) the fungus is superficial and easily reached. Here the directly destructive method is eminently successful. The *unguentum hydrarg. ammoniat.* or any anti-parasitic ointment, regularly applied, will soon get rid of the disease. Harm is often done by excessive strength of the application. The fungus does not require for its destruction those concentrated remedies which too often replace the irritation of the fungus by an irritation of their own. The old-fashioned plan of painting such cases with tincture of iodine is a combination of the direct and indirect methods of treatment, and is often useful. Aldersmith recommends acetic acid 2 parts, liniment iod. 1 part. This should be painted on every day or every other day, and should reach a quarter of an inch beyond the visible disease.

Ringworm of the Scalp.—Although possibly the variety of the fungus may have some bearing on the prognosis of any given case (the large-spored variety being usually more easily got rid of than the small) it has none on the treatment. The direct method is shown in its least favourable aspect in treating ringworm of the scalp. The

hair follicles are deep, and the fungus extends throughout their entire length, and it is nearly impossible to induce any destructive agent to penetrate to the bottom of every individual hair follicle. Still, parasiticide remedies have great advantages. Although much of the fungus is in the follicles, much is present on the broken hairs and in the scales surrounding them, and these are eminently open to the effects of local applications, which have the further important effect of checking the spread of the disease.

In an ordinary case of ringworm of the head of a child, the first thing to be done is to have the hair cut short, and the diseased spots identified. The hairs around each spot should be extracted. Care must be taken with regard to the use of brushes, towels, caps, etc., and the child should sleep alone. The head should be washed frequently with some antiseptic soap. I cannot agree with Mr. Morris that water, being an essential to the existence of the fungus, should be withheld. The fungi have no difficulty in getting all the moisture they require from the tissues, and frequent washing certainly prevents the development of new areas, besides removing mechanically a large amount of fungus. I sometimes say to my students that when a case of ringworm is discovered in a family, the treatment of the unaffected children is almost more important than that of the diseased one. The hair of all should be cut short, and their heads should be washed daily.

The direct method.—In considering the applications to be made, it should never be forgotten that after all much more depends on the method of application than on any particular drug selected. The drugs which may be used are legion, and the actual selection is a matter of individual taste. Most of the mercury salts, copper salts, resorcin, salicylic acid, carbolic acid, boric acid, many of the modern synthetic compounds, etc., have the power of destroying the fungus.

The form in which they are applied is important. Seeing that the fungus extends down to the base of the follicle, it seems unreasonable to expect aqueous solutions to be of much value. The two forms of application with which to reach the fungus are ointments and soaps. The mere spreading of an ointment on the surface is of very little value. It must be *thoroughly massaged* into the scalp with the thumb. The more prolonged and thorough this

massage is, the more rapid will be the cure. It should certainly occupy not less than ten minutes twice daily. Medicated soaps are theoretically more efficacious, since their power of removing grease should enable them to penetrate better. They, however, do not carry the medicament with them so completely as do the ointments, but a combination of soap and ointment is often useful.

There are methods of increasing the activity of any given drugs. Thus, salicylic acid, with its solvent power on the epidermis, is a useful addition; carbonate of potash is another. The basis of the ointment is important, and should in some proportion at least be lanolin. It seems to be universally admitted that lanolin (*adeps lanæ*) has a greater penetrating power than other bases. A useful ointment is the following :—

R.	Sulph. Præcip.	
	Hydrarg. Ammoniat.	āā ʒss
	Acid. Salicylici	grs. xx
	Lanolini	
	Vaselini	āā ʒss

The indirect method aims at stimulating the skin to destroy or throw off the fungus. The popular method is the application of iodine, which, in addition to its irritant action, has also a directly destructive one. It is, however, not very efficacious in ringworm of the scalp. Blistering is more often successful. Under this are included many forms of application. The blister is not necessarily produced by blistering fluid. The application of pure carbolic acid, recommended by some on account of its antiseptic powers, owes its value chiefly to the irritation which it sets up. Strong solutions of perchloride of mercury in spirit have the same action. No doubt these drugs destroy the fungus on the surface, but they do not penetrate into the follicles. The frequency of their application must be regulated to each individual case, and the irritation of one application should have nearly disappeared before another is made. Carbolic acid is applied pure, and the perchloride spirit, which is curiously irregular in its effect on different cases, should commence at a $\frac{1}{2}$ per cent and be increased as experience shows to be necessary.

Chrysarobin, which is a favourite remedy with Unna and Morris, requires care in its application to the head on account of its tendency to cause erythema of the face,

and conjunctivitis. I look upon its action as mainly, if not entirely, indirect. Unna applies it in his compound (5 per cent) chrysarobin ointment (see page 140), and covers the forehead with a special gelatin dressing to prevent the drug from reaching the face. Mr. Morris rubs in a chrysarobin ointment for ten minutes, and then wipes away the excess. A useful way of applying it is in the form of the salve stick, which is a handy and most economical method of treating many skin diseases. It is composed in this instance of:—

R.	Chrysarobin	ʒiij
	Wax	ʒij
	Lanolin	ʒv

These are melted together and shaped into a rod like those with which our grandmothers used to fix their curls on their foreheads. It may be rubbed vigorously on with less risk than the ointment of spreading to the face. I can testify to the merits of Hodara's recently introduced method of applying this drug. He advises that it be applied for three or four days and then wiped off with olive oil. He then leaves the part alone for a few days, when the cycle is recommenced. I have used chrysarobin ʒj, glycerin, chloroform āā ʒss daily for some weeks, without in any case setting up serious dermatitis, so that the Scottish scalp is apparently more resistant than the Turkish.

A somewhat heroic mode of treatment is that advocated by Aldersmith, *viz.*, the application of *croton oil*. The object of this is to imitate nature, and to produce what is known as *artificial kerion*. It is a very dangerous remedy, and must be used with the greatest caution, for in its effects it often outstrips nature in its power of injury, and leaves the part permanently bald. If it is to be used at all, it should get a fair trial, and be used as Aldersmith directs. A small part is selected in order to test its effects. The hair is cut short for some distance around the spot, and carbolic lanolin is applied, so as to limit the spread of the oil. One drop of croton oil is then brushed over the part with a small camel's-hair brush, and the part covered with a small *linseed meal* poultice. The poultice is directly applied and covered with oil silk. Means must be taken to prevent it slipping, as if it does, the pustules produced by the oil will be spread. The painting is repeated daily or every alternate day until either the whole part swells

up, as it does in kerion, or until a purulent folliculitis is produced without elevation of the skin. The croton oil may then be stopped, but the poultices should be continued until all the hairs have fallen from the follicles. The after-treatment is that of kerion. If the diseased hairs are few in number, they may be treated by the application of the oil on a blunt needle passed into the diseased follicle.

The effect of croton oil must always be carefully watched, as it produces sloughing of the skin. The first indication of this is, according to Aldersmith, a whitish pellicle on the surface, quite different from the redness usually produced.

The Mechanical Method.—Theoretically, epilation is an invaluable addition to any other treatment. The removal of the diseased hair is clearly most desirable. Unfortunately, it is in the majority of cases impossible, because the hairs break off in the forceps, and the diseased part is left in the follicle. Indeed, it is useless in any except skilled hands, in which it may often distinctly hasten recovery. With great care it is possible to remove a number of hairs entire, but the operation is tedious. As the disease improves and the hairs are less affected, its value becomes greater, and it is good practice to extract the apparently healthy hairs around a small diseased area, for some of them will almost certainly be in the first stage of infection.

In a few cases I have tried the effects of the X-rays as a depilatory. The first was at least encouraging in its results. The boy's hair came out over all the diseased area, and in the empty follicles the disease was easily destroyed. Unfortunately, a patch at the side of the head escaped exposure, and the process had to be repeated. The subsequent growth of hair was luxuriant, and that case was certainly successful. When tried in other cases the results were not so satisfactory. Individuals vary greatly in their response to X-rays, and while the method may be useful in emergencies, where rapid cure is essential, I am not prepared to recommend it as a routine treatment.

Kerion.—When this condition has developed, the essence of treatment is an attitude of masterly inactivity. Stimulant applications never do good, and often do harm. Either zinc ointment or, perhaps still better, starch-poultices, should be applied until the irritation subsides, and the part flattens down to its original level, when it must be carefully examined in order to discover whether any of the fungus

has survived. As a safeguard, it is well to remove all the marginal hairs for some distance beyond the inflamed patch. The part remains red for a considerable time, and if the hair be long in re-appearing, some stimulant application, such as turpentine, should be used. Generally, however, no treatment but the soothing poultice is required.

Ringworm of the Beard.—As already indicated, ringworm of the beard region may appear in two forms. It may spend its force on the skin, and run the course of ordinary *tinea circinata*. According to some, this is the antecedent stage of the severer form. With that opinion I do not agree. At all events, in the many cases of nodular ringworm of the beard which have come under my notice, there is usually no history of any such commencement. This variety is, further, as amenable to treatment as is *tinea circinata* generally, disappearing in a few days under the application of unguentum hydrarg. ammoniat. or other anti-parasitic ointment.

In typical ringworm of the beard we have not the same difficulties with regard to epilation as in ringworm of the scalp. The hairs here do not so readily break, the extent of the disease is generally fairly defined, and epilation is of the very first importance. The hairs over the diseased part should be allowed to grow long enough to be easily seized by the forceps, and any part where there are nodules should be thoroughly depilated. After this has been done, some antiseptic ointment should be rubbed in, and seeing that the diseased follicles are now all patent, the chances of its penetration to their bases are very much greater. While any desired antiseptic may be used, I have a definite preference for a 10 per cent oleate of copper ointment. Ringworm of the beard has about it none of the despair which attaches to ringworm of the scalp.

Ringworm of the Nails.—This is, as may easily be expected, a very obstinate affection. It is difficult to destroy the fungus in a hair follicle, and still more so to destroy it in a hard substance like the nail. As much as possible must be cut away, and the remainder should be scraped down with a piece of glass as thin as possible, before the application is made to it. This application may be chrysarobin, ammoniated mercury, or any other parasiticide. While there are not many who approve of Harrison's method of treating ringworm of the scalp, on account of the complications liable to ensue, there are few

who do not regard it as valuable in the treatment of ringworm of the nails. He uses two solutions :—

R. No. 1.—Liquor Potass.	
Aq. Destill.	āā ʒss
Potass. Iodidi	ʒj
R. No. 2.—Hydrarg Perchlor.	grs. iv
Spirit Vini	
Aq. Destill.	āā ʒss

No. 1 is applied on a piece of lint and covered with protective. After remaining on for fifteen minutes, a piece of lint soaked in No. 2 is applied for twenty-four hours. The theory is that the iodide dissolved in the liquor potassæ is enabled to make its way among the softened nail cells, and that it is followed by the mercury, which combines with it to form the red iodide in the immediate neighbourhood of the fungus. This method, which, as already said, is sometimes followed by unpleasantly severe effects upon the scalp, is most useful in ringworm of the nails.

When one considers the interruption to education resulting from ringworm, its importance is impossible to exaggerate. While perhaps the majority of cases are well in eight to twelve months, there are too many which, even under the most active treatment, last for two, three, or even more years. In such cases great pressure is put on the practitioner to certify the child as free from the disease. No patient should ever be certified as free from ringworm unless, on a careful examination, *after three weeks without any treatment*, no scaling and no broken hairs are to be found. As long as these persist there is certainly fungus present, and before giving a certificate the head should be examined, not casually, as is too often done, but carefully with the aid of a lens. Personally, I never give a certificate that a child is free from ringworm; it seems to me a rash thing for anyone to do. I prefer to state that, having carefully examined the patient, I can detect no trace of ringworm.

FAYUS (Honey-comb Ringworm).

(*Favus*—a honeycomb.)

Favus is another disease of the hair follicles, hair, and surface epidermis, due to the growth of a fungus. It is curiously capricious in its geographical distribution. It

PLATE XXVII.



FAVUS.

is common in France, rare in Germany, common in Scotland, and it was almost unknown in the South of England, until the action of the Russian Government sent Jews and Favus together to London. Like ringworm, it may affect any part of the skin, and even the mucous membranes, but, like it, it is much more common upon the scalp. Its most striking feature is the production on the surface of rounded,



Fig. 34.—Showing moist Dermatitis and one or two Scutula.

cup-shaped crusts, or *scutula*, but it may also give rise to a moist dermatitis with vesicles, not unlike *tinea circinata*. Fig. 34 shows this moist dermatitis and one or two scutula. The boy's scalp was severely affected. Plate XXVII is a very typical example of long-standing Favus of the scalp, showing the usual extensive destruction of the hair.

The fungus which causes the disease was described in 1849, and was named by its discoverer the *Achorion Schönleini*. It differs from that of the more familiar

ringworm both in its method of growth, and in its method of attacking the hairs. While it is not always possible to distinguish under the microscope one fungus from the other, there is rarely any difficulty when the whole facts of the case are known to the observer. The hairs in a



Fig. 35.—Part of a hair affected by Favus. Hair comes out entire; long filaments of fungus inside the shaft; a felt-work of fungus in a portion of the sheath. Stained by Morris's method; $\times 100$.

patch affected by Favus are not broken off, as are those of ringworm, but they differ from the normal hairs around in their stiff, lustreless, faded appearance. When such a hair is examined under the microscope,* it differs entirely



Fig. 36.—
Culture of Favus.

from those affected by any of the varieties of ringworm. The fungus elements are longer; they fill the interior of the hair, and obliterate altogether its normal structure; there is no sign of the medullary canal. If a portion of the root sheath adheres to the hair, the difference from the ringworm fungus is not so striking (Fig. 35), for here the elements are shorter and more closely resemble the spores of ringworm. It is true that they are usually somewhat longer than they are broad, but this must not be taken as an absolute rule. The scutulum (see Frontispiece and Plate XXVII) is a sulphur yellow mass of varying size, showing in the centre a depression which becomes more marked as the scutulum enlarges. This is not due, as used to be taught, to the anchoring down of the centre by a hair, but to the fact that the fungus elements of which the scutulum is almost entirely composed are more luxuriant and moist at the margin, while at the centre they are dry and

* The staining method described under Ringworm is of little use in Favus, except in expert hands. The fungus in the hair sheath is easily stained, that inside the hair only with great difficulty. As a rule there is so much fungus that it is easily detected by the potash method.

closely packed together (Fig. 37). A scutulum develops when the fungus is grown on nutrient agar in a test-tube (Fig. 36). When a scutulum is forcibly removed it is seen to occupy a depression in the skin, the surface of which is moist and inflamed. To the pressure of the hair roots between the scutulum and the skull, is due the baldness so often caused by favus. The disease itself does not tend to destroy the hairs, their destruction is merely mechanical. If the scalp is kept free from scutula by careful washing, there is no interference with their growth. If left alone, the disease steadily advances until the entire scalp is involved; and, if the case is neglected and scutula are allowed to form, the disease may ultimately cure itself by destroying all the follicles, and thus producing complete and permanent baldness.



Fig. 37.—Section of a Scutulum *in situ*; very thin layer of epidermis beneath, thin horny layer above. The fungus in the centre is more closely packed, hence the depression; $\times 100$.

Two domestic (?) animals, the cat and the mouse, are attacked by this disease, and are in many cases responsible for spreading it. In the mouse the disease is much more serious than in the human subject, for the pressure effects of the scutula are so great that the bones of the skull are eroded, and the animal dies. The cat acquires the disease from its victim, and one could regard with equanimity this illustration of retributive justice, were it not that it often carries the disease on to the children of the household. In a very large number of the cases of both favus and ringworm, domestic pets are the source of the disease. In some cases favus is transmitted from one child to another, but it is remarkable how often one finds one member of a family alone affected, while, unless extraordinary pains be taken, that is quite exceptional in ringworm.

DIAGNOSIS.—When scutula are formed, there is no difficulty in diagnosis. In no other disease are such structures produced. The mousy, or damp straw odour, which some lay such stress upon, is due to the decomposition of dead fungus, and a somewhat similar odour is often noted on the heads of neglected children. If scutula are not present, the mode of infection of the hair should suffice for diagnosis; if not, the case may be left to itself for a few days, when the scutula will develop in the follicles. On the non-hairy skin, the scutula, when they do develop, are usually more perfect than on the scalp, but quite frequently their place is taken by a dermatitis, sometimes moist, sometimes dry and scaly. In these scales, of course, one might be fortunate enough to find the fungus elements, but, as a rule, the disease is present elsewhere in more typical form, and thus the diagnosis is simplified.

The disease sometimes attacks the nails. It may affect the nail proper, or may limit itself to the nail bed, where a scutulum develops and raises up the nail plate. As in ringworm, considering the facilities for inoculation, one is surprised at the rarity of the infection of the nails. Attempts at treatment on the same lines as in ringworm of the nails (*q. v.*) may be made, but the most thorough method is radical removal.

PROGNOSIS.—Left to itself the disease goes on for ever. A patient who has been intermittently under my care has had the disease since 1845, and has communicated it to all her children. Among those under whose care she had been were Hughes Bennett, Warburton Begbie, and Grainger Stewart.

TREATMENT.—There are three methods of attacking the disease. Parasitocides may be employed to destroy the fungus, the skin may be irritated so as to throw it off, or it may be mechanically removed. Each of these methods involves first of all the removal of the masses of scutula, either by starch or oil poulticing.

The fungus is less open to directly anti-parasitic remedies than that of ringworm. In that disease, although the fungus is difficult to reach, down in the follicles, the way in which it erodes the hair renders the penetration of the drug into the hair comparatively easy. Here the outside of the hair is not eroded, and antiseptics exert most of their effect on any fungus which happens to be free in the follicles or on the surface; very little can penetrate into

the interior of the hair. The indirect method of setting up irritation is of more value, although in Favus the new growth of hair does not have that curious resistance to the attack of the fungus which it often seems to have in ringworm. The method of counter-irritation by chrysarobin is, however, a favourite one with many.

Epilation is of very much more value in Favus than in ringworm. The hairs do not break but come out entire, bringing with them the swollen root sheath, often loaded with fungus, and leaving a patent follicle into which antiseptics quite easily penetrate. Indeed, it may be said that the cure of any given case of Favus depends on the care and thoroughness with which epilation is carried out, and if the disease is recognized at its commencement it can be cured quite easily.

In the X-rays we have a method of depilation far superior to any previously at our disposal. The daily application of these to a case of Favus will cause the hair to fall out from the entire scalp in a period varying from two to five weeks. The hairs bring most of the fungus with them, and any that is left in the follicles is easily reached by an antiseptic ointment.

For depilatory purposes the tube should be placed closer to the patient than in the case of lupus, etc., and caution must always be exercised so that the reaction is not too severe. In the first case in which I used the rays for this disease, one part of the scalp became violently inflamed, and the hair on it has never returned. Cautiously used, they are of inestimable value, and their introduction has entirely altered the formerly gloomy prognosis of Favus.

The ointment to be applied is a matter for choice. Personally, I believe the *copper salts* to be the most efficacious, and since the disease is commonest in the poor, the cheapness of an ointment composed of a drachm of blue-stone and an ounce of lard is of considerable importance.

ALOPECIA AREATA.

(ἰαλώπηξ—a fox: foxes often have bald patches on their coats.)

Alopecia areata is characterized by the development of small round spots more or less completely denuded of hair. These increase in size and number, until in severe cases every hair upon the body may disappear. The most

common seat of the disease is the scalp, and there the appearances are exceedingly characteristic. The patches are rounded, the skin is smooth and somewhat depressed below the surrounding level, not because it has undergone any atrophy, but because the hair roots, which make up so large a proportion of the scalp, have disappeared. The surface is not always absolutely free of hair. As a rule, at the margin are found those short broken hairs having the shape of a "point of exclamation," (!) which are so characteristic of the disease (*see* Frontispiece). But there is also another type of the disease where, at irregular intervals over the surface of the patch, the point of a hair may be seen protruding from a follicle mouth. This may



Fig. 38.—Very extensive case of Alopecia Areata. Duration one year.

be lifted out by the forceps without any effort, and it will be noted that about four-fifths of the hair lies beneath the surface. Very often it is surrounded at the level of the follicle neck by a collar of sebaceous material.

In some cases the scalp is notably greasy; in others there are numerous scales of seborrhœa, but in many cases the scalp between the diseased patches is apparently quite healthy.

ETIOLOGY.—For a long time clinical evidence has been accumulating in favour of the communicability of this disease. Bowen reports an epidemic in a girls' home, where after the introduction of one case, sixty-three out of sixty-nine girls were affected. On the re-admission of the same patient, six years later, a second epidemic occurred, in which forty-five out of forty-nine children

were attacked. Less striking instances of infection come under the observation of anyone who has much experience of the disease. In investigating the subject for my paper at the International Congress of Dermatology in Paris, I found some evidence suggestive of contagion in eighteen out of sixty-three cases.

Mr. Hutchinson's theory that Alopecia areata is a sequel of ringworm, is one with which I do not agree, and yet I must admit that one sees now and then cases seeming to support it. It is not uncommon in the late stages of ringworm to find hairs closely imitating the exclamation ones of Alopecia areata, while in some cases of ringworm the hairs fall out all over the patches without any antecedent inflammation, and were one not familiar with the history, one would diagnose such cases as Alopecia areata. I have seen the hair growing in in ringworm in light-coloured patches exactly as it does in Alopecia areata, but on looking into my notes I found that not only had the case been diagnosed as ringworm, but I had actually cultivated the fungus from the patient and his brother. These, however, are but isolated instances in a comparatively large experience of both diseases, and ought, I believe, to be looked upon as mere coincidences. Mr. Hutchinson, with his enormous experience, has no doubt seen many more of these coincidences, and has attributed to them more importance than they deserve.

It is hardly necessary to seriously argue Dr. Crocker's position, that Alopecia areata is really unrecognized ringworm. The fact that I made cultivations from something like fifty consecutive cases of Alopecia areata without once growing a semblance of fungus, is I think sufficient to bury that theory. I have examined many cases in the light of Jacquet's theory, that the disease is produced reflexly by the irritation of carious teeth. Needless to say, I found these often present, but that is hardly evidence in support of the theory, which appears to me purely fanciful.

When hairs are examined by Morris's method, as described under ringworm, organisms are invariably found. In some cases they are few in number, in others they are as abundant as the fungus elements in small-spored ringworm, forming a continuous sheath around the hair. This is specially the case in the second variety of exclamation hairs, where a large part of the hair lies below the surface. The existence of these organisms has long been known.

They were originally described by Dr. George Thin, who gave them the name of *bacterium decalvans*. The organism is small, rather longer than broad, although it is not easy to make this distinction in all specimens.

Sabouraud, who has in the last few years published many papers on the subject, says that if the hairs are inoculated on a specially prepared acid medium, a whitish growth first of all appears, but as time goes on a brick-red colony develops in the centre, which consists of myriads of a very fine bacilli, according to Sabouraud the cause of the disease. (See ACNE and SEBORRHŒA.) From cultures of this organism he prepared a toxin, the injection of which into guinea-pigs produced patchy baldness. My own observations do not confirm those of Sabouraud, and I am inclined to think that the white culture which grows in every case is in all probability the *Staphylococcus epidermidis albus*, which has somehow acquired a virulence usually foreign to it.

Pavloff, of St. Petersburg, reports that the inoculation of this organism, cultivated from cases of Alopecia areata, on the skin of rabbits, produced desquamative dermatitis and "alopecie en aires."

DIAGNOSIS.—The diseases which may be confounded with Alopecia areata are ringworm and lupus erythematosus. The "bald" variety of ringworm often closely imitates Alopecia areata, but when the surface of the patch is carefully examined with a lens, it will be noticed that small portions of the hairs are still present in the follicles. It is sometimes impossible to extract these with the forceps, but they are always easily removed by a comedo extractor, and then examination under the microscope clears up all doubt.

Lupus erythematosus of the scalp is only confused with Alopecia areata because it is a comparatively rare disease. The affected area is irregular in shape, the border is elevated, hyperæmic, and scaling, and the centre is harder than in Alopecia, being indeed composed of scar tissue. The appearances of these three diseases are fairly well contrasted in the Frontispiece.

"Point of exclamation" hairs are not absolutely characteristic of Alopecia areata; they occur also in late stages of ringworm, and sometimes in seborrhœa.

PROGNOSIS.—The prognosis of Alopecia areata is very easy. If a patient is under forty, the physician may confidently predict complete recovery. No doubt exceptions

occur, but they are so few that one may cheerfully take the risk of them. Recovery may be, and often is, slow, and the disease very often gets worse before it gets better. After forty, every year added to the patient's age makes the prognosis less good, and one's prognosis should be more and more guarded.

TREATMENT.—Since time may in most cases be trusted to cure the disease, it may if desired be left alone. There is, however, no doubt that treatment hastens recovery. I do not propose to discuss internal treatment. If the patient is anæmic or suffers from any other disease, that should be appropriately treated. The local treatment is very much the same in its general principles, whether the physician is a believer in the infective theory or not. The stimulant remedies, such as acetic acid, cantharides, ammonia, etc., set up irritation, and thus indirectly destroy organisms, and, on the other hand, the antiseptics employed to destroy organisms have all some stimulant properties. It is usually difficult to satisfy oneself to which application the improvement is really due. The last-used remedy gets the credit, and those whose experience is small are apt to attach too great importance to what is after all a mere coincidence. It often happens that two or three cases in succession rapidly recover, while the next twenty may be utterly unresponsive to treatment. I believe the best remedy to be *lactic acid*, which I order in a spirituous lotion.

℞	Acidi Lactici	℥j—℥j
	Ol. Ricini	℥ij
	Spt. Vini	ad ℥iv

This should be applied daily, at first cautiously, but more and more vigorously as the scalp gets used to it.

Sulphur, in the form of *sulphur ointment*, first recommended by Thin, and more recently by Sabouraud, is often useful. *Chrysarobin*, either dissolved in glycerin and chloroform, or in the form of the chrysarobin stick (page 173), is in the opinion of some the best remedy. *Perchloride of mercury* in spirit, from $\frac{1}{2}$ to 2 per cent, is not only useful as an antiseptic, but is a direct stimulant of hair-growth. Other remedies used are ammonia (a favourite with Allan Jamieson) :—

℞	Liq. Ammonia fort.	
	Chloroformi	
	Olei Sesami	aa ℥ss
	Olei Limonis	℥ss
	Spt. Rosmarini	ad ℥iv

Sig.—To be used cautiously, until tolerance is acquired.

or turpentine, paraffin oil, etc., etc. It is well when any treatment is apparently unsuccessful, to humour the patient by making a change. If this is not done, the patient will probably change not only his medicine, but also his physician; and as the last medicine gets all the credit, so does the last physician.

Alopecia areata could hardly hope to escape the epidemic of electrical treatment. Finsen light, high-frequency currents, and X-rays have all been recommended. I have tried them all, and I can only say that they do not appear to me to have any advantages over the simpler methods.

THE NAILS.

STRUCTURE.—The accompanying diagrams, which are after Unna and Van Brun, show longitudinal and transverse sections of the structure of the nail. The structure is best understood by comparing it with that of the hair. The nail is developed in a very similar method, from a depression of epidermis, the central cells of which are modified to

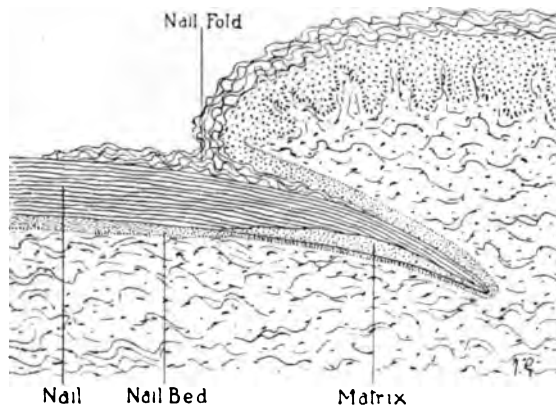


Fig. 39.—Longitudinal Section of Nail (Diagrammatic).

form the nail cells. The difference consists in the fact that the nail does not grow free like the hair, but that one side of it is laid flat against the skin and is partly adherent to it by a system of ridges. The white crescent, the lunula, seen in most persons on the thumb at least, and in many

on all of the nails, marks the anterior lower limit of the nail matrix, but the nail also grows from the under surface of the nail fold. The nail bed, that part covered by the nail, which lies in front of the lunula, has no concern in the growth of the structure; the nail is simply pushed along it by the addition to its substance behind. If growth be more active in the nail fold, the nail is usually thick and broad; if the cells in the lunula be more active, then the nail is thinner and finer and the lunula is more in evidence. Fine nails, with a well-marked lunula, are said to be

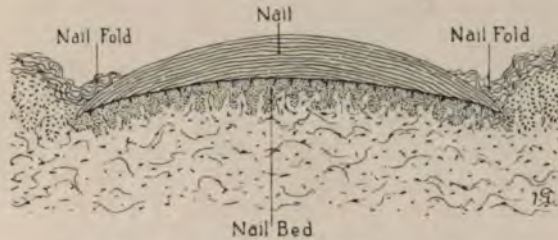


Fig. 40.—Transverse Section of Nail (Diagrammatic).

associated with blue blood; at any rate, they are undoubtedly hereditary.

The white spots made much of by fortune-tellers are due to the presence of air between the nail cells, and the transverse grooves which often mark the date of some severe illness, are the result of a temporary arrest of growth at that period. Longitudinal grooving is the mark of irregular cornification of the nail substance, and unless associated with obvious local disease, is usually the expression of some systemic disturbance (gout, etc.).

The diseases of the nails are not easy either to understand, to describe, or to treat.

Onychia ($\delta\upsilon\nu\chi\iota$ —*the nail*) is a purulent inflammation of the matrix, bed, or wall, and the term is applied whatever be the cause. It occurs in syphilis, and is not infrequently associated with tuberculosis, but some injury is almost invariably the exciting cause. Syphilis is said specially to attack the toes of adults; tuberculosis the fingers of children. It must be treated on general surgical principles with reference to its cause, and it is usually necessary to remove the nail and to use antiseptic treatment. **Onychauxis** ($\delta\upsilon\nu\chi\iota$ — $\alpha\upsilon\gamma\chi\omega$ —*to grow*) is the term descriptive of increased

growth of the nail, whether it be in length or in thickness, and the term **Onychogryphosis** (γρύπωσις — *curvature*) is used when this increase is twisted like a ram's horn. These two conditions are usually found in bed-ridden patients. **Koilonychia** (κοίλον, *a cavity*) or spoon nail, is usually associated with anæmia, and is the reverse of the condition of club finger seen in phthisis, etc.

The nails are affected in many of the commoner skin diseases, especially in psoriasis and eczema. Either disease may affect the *nail bed* only, when the result on it is purely mechanical; the nail is raised from its proper resting place, its structure remaining unaltered. If, however, the disease affects the matrix or the nail fold, the nail is deformed in various ways, the surface being irregular or grooved in one or other direction. In severe eczema the nail is often much narrower than normal, and grows rapidly. In psoriasis little rounded black depressions are the most characteristic lesions. The nails are also involved in lichen planus and in pityriasis rubra. Their affection in ringworm and favus (onychomycosis) has been referred to under the heading of these diseases.

DIAGNOSIS.—The diagnosis of these affections is usually made from the presence of signs of the disease elsewhere. As Crocker says, when the nail affection is the sole manifestation, diagnosis is little more than guess work.

TREATMENT.—Just as in ringworm it is exceedingly difficult to reach the bottom of the hair follicle, so in diseases of the nail it is difficult to reach the seat of the disease. In those cases where the nail bed is affected, the difficulties are not so great, and suitable applications may be made to penetrate beneath the nail. When the disease affects the nail matrix or nail fold, patient, prolonged treatment is required. The best applications are *tar* and *resorcin*. They must be applied continuously, and their penetration favoured as much as possible by the wearing, at night at least, of rubber finger-stalls. Tar ointment may be applied at night, and a solution of resorcin (2–10 per cent), either in water or spirit, during the day. Arsenic given internally has an undoubted influence in promoting recovery in such cases, and should have a fair trial in every case.

Severe affections of the nail usually point to some constitutional defect, and tonics in addition to the arsenic are generally indicated.

LICHEN PLANUS.

Lichen planus forms a sort of connecting link between the inflammations of the epidermis and those of the corium, for in it both are affected, and there is some room for difference of opinion as to which is the primary seat of the disease. It will probably before long find its resting place alongside of the infective granulomata.

The word lichen is derived from the Greek *λεῖχην*, meaning the fungus which we also call by that name, but why it should have been applied to this disease is obscure. The older dermatologists used the word much more widely than their successors, applying it to all diseases in which papules were a prominent lesion, even irrespective of the fact that the papule might only be a stage in the process. Thus the papular variety of eczema was known as lichen simplex, and when a vesicle developed on the summit of the papule, the adjective *agrius* (*ἀγριος*—*angry*) was substituted. The term was also applied to other papular diseases, such as that now recognized as *seborrhœa corporis*, which was called lichen marginatus.

There are three diseases in which it is pretty commonly used, though some restrict it to one only. That one is the Lichen planus of Erasmus Wilson, and the others are the Lichen ruber acuminatus of Hebra, and Lichen scrofulosorum. Lichen acuminatus is now generally regarded as identical with pityriasis rubra pilaris (*q.v.*), while Lichen scrofulosorum is a form of tuberculosis.

Lichen planus is characterized by the development of a series of papules, which commence and remain as such. These have peculiarities clearly marking them out from all other varieties of papule. The first peculiarity is their *shape*. Instead of being round as are most skin lesions, they have usually an *angular* outline, indeed their outlines are determined by the natural fine lines on the skin. Exceptionally, they are round or oval (*Plate XXIX*), and have in their centre a minute depression, probably corresponding to a sweat pore. The *colour* of the papules is also peculiar. While it is not evident in every case, or rather not always evident, there is usually at some time, and often throughout the case, a *livid lilac* tinge which is so characteristic, that when it has once been pointed out it should always be easily recognized. The papules have yet another peculiarity—their apices appear as if *burnished*.

When the light strikes them in certain directions their flat surfaces are distinctly shiny. Lastly, as the spots disappear they invariably leave behind them more or less pigmentation.

While the distribution may be almost universal, there are certain regions which are almost always affected in slight cases, and most affected in severe ones. These are the flexor surfaces of the wrists, the inner aspects of the knees, and the back of the neck. When the disease is widespread, papules are found most numerous wherever any compression is exercised, as by the garter or the corset. They may run together to form patches, the nature of which is sometimes not at once evident, for some greyish scaling often covers them. Almost always, however, there are at the margins of the patch one or two papules in which the distinguishing features of the disease may be recognized. These patches are most common on the legs, and have a certain superficial resemblance to psoriasis. There is occasionally a tendency for the papules to form chains along the line of the veins. These patches on the leg are associated with a good deal of secondary thickening, and are sometimes considerably elevated, but true warty development (*Lichen verrucosus*) is exceptional, and probably occurs only in neglected cases. The papules are not confined to the skin, but in some cases appear as whitish areas on the mucous membrane of the mouth.

The papules have a varied duration, some of them disappearing rapidly, and others persisting for months. According to their duration, their site is marked by less or more pigmentation, generally of a rather rich brown colour. This is always most pronounced on the legs, and it persists for many months after all other traces of the disease have passed away. *Plate XXVIII* is made up from two cases. The spots on the thigh, the knee, and ankle are from a case which had lasted for eight months, and show the distribution on the inner aspect of the knee, the bluish colour, and the shiny surface. The disease around the ankle shows the combination of the livid lilac colour of the fresh disease, with the pigmentation due to old lesions. The spots on the calf are taken from a case which had lasted for two years, on the leg of an old man. Some of them are raised and scaly, and the pigmentation marks left by others are well seen.

When a papule is removed and sections are examined

PLATE XXVIII.



A PATCH LIFE SIZE.

LICHEN PLANUS.

1

PLATE XXIX.



LICHEN PLANUS.

under the microscope, the appearances are so regular and consistent, that without knowing anything of the specimen, one has rarely any difficulty in diagnosing the disease.

The horny layer is thickened and dense. The cells of the rete are to some extent increased in number, and more notably so in size, but an alteration in their shape is the most marked change. They are laterally lengthened, *stretched* over the growth beneath.

It is in the corium that the most notable changes occur. Occupying a little lozenge-shaped area, close under the epithelium, and sharply marked off from the rest of the corium beneath, is a collection of cells (*Fig. 41*). These cells are of the connective tissue type, and are similar to those found in the granulomata. When papules from later stages are examined, and more especially in the long-



Fig 41.—Section of a Lichen planus papule. Horny layer thickened, epidermis thickened and its cells enlarged and lengthened laterally. Dense growth of connective tissue cells in the corium, sharply margined beneath; $\times 75$.

standing, thickened, elevated patches which occur on the leg, further changes are seen, the horny layer being thickened, and projections running downwards from it into the rete. In the corium, lines of new vessels may be found running in among the collection of cells; indeed, a process of organization is going on. This is to some extent confirmed by clinical observation, for although no actual scar is produced, in many cases a condition not very distinct from it is developed. It is thus apparent that further investigation confirms the view that the cells are of the granulomatous type. There are, further, clinical facts in support of the disease being more than a catarrhal inflammation of the skin. The disease may persist for years, and in wide-spread cases there is often considerable general

disturbance of the health, such as is not found in the ordinary cutaneous catarrhs.

HISTOLOGY.—The anatomy explains the peculiarities of the spots. The burnish on the surface is due to the stretching of the epidermis from beneath, and is a purely physical phenomenon, not confined to Lichen, for to the same physical characters are due the mother-of-pearl edge of early rodent ulcer, and the shining surface in molluscum contagiosum. The colour is due to the thick cellular layer "which lies like a dense opaque medium over the dilated capillaries" (Unna).

ETIOLOGY.—The etiology of the disease is obscure. It is usually placed in Hebra's class of exudations or inflammations, but many consider it to be dependent on nerve influences, and Mr. Morris puts it among the "diseases due to nerve disorder." Cases occurring in such persons as railway signalmen or range markers are always quoted as supporting the nerve theory. One of the worst cases which has been under my care was that of a golf professional; golf professionals have no nerves. Brooke says that in almost every case his patients have previously been in sound health, and that he has never seen any marked nervous depression. The anatomical appearances seem to support the view that it is an infective inflammation, and I believe that Lesser has described an organism in connection with it, though I have not myself succeeded in finding one.

DIAGNOSIS.—The diseases with which Lichen is most likely to be confused are psoriasis, tubercle, and syphilis. The typical papules have no real resemblance to those of typical psoriasis, for these latter are scaly upon the surface, while those of Lichen are shiny; but when the individual lesions have run together to form patches, the resemblance to psoriasis is often close. The scaling is of a greyer tinge than in psoriasis, and careful search will almost invariably detect characteristic papules. In some cases the examination of the mucous membrane of the mouth may afford conclusive evidence. Cases of psoriasis from which the scales have been removed by washing have a superficial resemblance to the Lichen papule, but the colour generally distinguishes the two.

With tubercle, only the extremely chronic limited patches of the disease can be confused. In them there is almost always a recognizable suggestion of the lilac tinge

already referred to, and generally some outlying characteristic papules. The scaling on the surface of a tuberculous lesion is coarser than that of Lichen, and careful examination should disclose some of the typical "apple jelly" nodules, although it must be admitted that it is just in these chronic limited patches of tubercle that they are most difficult to recognize.

Two of the eruptions of syphilis somewhat resemble Lichen. In one of them, an early secondary eruption, the resemblance is so marked that the term *Lichen syphiliticus* is still frequently applied to it. As a rule, however, the colour is a deeper red, and the outline of the papules is not angular as it is in Lichen (see *Plate XXVIII*). Perhaps one of the most useful distinctions is the well-known fact that syphilitic eruptions rarely itch. The itching of an acute attack of Lichen planus is maddening. In the late tertiary period, patches analogous to the tuberculous ones just described may appear. As a rule, in such cases there is some ulceration of the specific patch, while Lichen never ulcerates.

PROGNOSIS.—While some cases get rapidly well, as a rule the disease is prolonged and obstinate. The widespread cases often take fully six months to recover, while localized patches on the leg may remain for years. The longer they persist, the deeper is the resulting pigmentation.

TREATMENT. (*Internal*).—The favourite remedy is *arsenic*, and many cases do well under it. It must be given in increasing doses until improvement commences, when further increase should be stopped; for arsenic has a tendency to increase the pigmentation which naturally occurs in the disease. If any signs of its poisonous effects appear, it should be stopped. It is possible, as in other diseases, to so lower the condition of the patient that there is an apparent improvement, but the disease reappears when the patient regains his strength. The bullæ which occasionally appear in this disease, are by some attributed to the arsenic so commonly administered, but there are well authenticated cases where no arsenic had been given. Pringle considers arsenic "the most deleterious drug we have for acute Lichen planus." Allan Jamieson and Morris prefer *antimony* to arsenic.

The internal remedy which has proved most efficacious in my hands is that recommended by Liveing, namely, *perchloride of mercury*. In some cases the disease disappears

under this treatment ($\frac{1}{12}$ of a grain three times a day), with a rapidity which is unapproached by either of the other remedies. So successful was it in the first case in which I used it, that I have to congratulate myself on the fact that I was able to confirm the diagnosis by the examination of a papule which I had removed, or else I should have suspected that the case was, after all, syphilis. Lusk, of New York, has been so much impressed with the merits of the mercury treatment as to suggest a relationship between Lichen and syphilis. This is not, I think, warranted.

(*External*).—External treatment is desirable in most cases. Unna has used carbolic acid and perchloride of mercury with such success, that his colleague Leistikow has christened it “Lichen ointment.” The prescription is :

R.	Unguent. Zinci Benz.	℥iij
	Carbolic Acid	grs. xx
	Hydrarg. Perchlor.	grs. i-ij-x

It may also be applied in collodion :—

R.	Carbolic Acid	grs. x
	Hydrarg. Perchlor	grs. i-v
	Creosote	℥ ij
	Collodion	℥j

There are many other applications. In general it may be said that the preparations which are useful in psoriasis, are useful, diluted, for Lichen. Tar has seemed to me to be the best remedy. The liquor picis carbonis of the new Pharmacopœia may be painted on the spots. The fact that the continued application of tar causes folliculitis (the so-called tar acne) should be kept in mind, and the effects watched. For the obstinate patches on the leg salicylic acid may be used, either in the form of plaster or ointment.

PARAKERATOSIS VARIEGATA.

This is the name originally applied to a rare disease which is considered by many to be not very distantly related to Lichen. It occurs in young adults, and commences as a papule, distinctly suggestive of Lichen. The eruption may spread to the entire surface of the body. The papules, however, advance to meet each other in a peculiar reticular fashion, which gives a very characteristic

appearance to the skin. Small whitish atrophic or healthy areas are separated by a raised, red, scaly mesh-work, and this gives a peculiar variegated or marbled appearance, hence the name. Crocker suggests as an alternative the term *Lichen variegatus*, and Erasmus Wilson called it *Lichen planus retiformis*. The retiform marking is so characteristic that it seems desirable it should appear in the name.

The disease is extremely obstinate to treatment, indeed none of the cases described seem to have materially benefited by any of the numerous remedies which have been applied.

LOCAL INFECTIVE INFLAMMATIONS OF THE CORIUM.

Unna divides these into four groups: (1) Sero-fibrinous inflammations; (2) Purulent inflammations; (3) Inflammations in which there is a tendency to necrosis; (4) Inflammations in which the tendency is to growth (the *granulomata*).

(SERO-FIBRINOUS INFLAMMATION.)

ERYSIPELAS.

(ἐρυθρός—*red*: πέλλα—*the skin*.)

This disease is fully described in all the text-books of medicine and surgery. Dermatologically, it is mainly important in connection with diagnosis, for certain other forms of dermatitis pretty closely simulate it. The disease most commonly confused with it is an erythematous dermatitis of the face, resulting often from exposure to the sun or to some other irritant. The important points separating Erysipelas from these rashes are as follows: There is almost invariably a rise of temperature and a quickening of the pulse. The patient usually feels ill. On inspection, the part has an angrier red colour than is commonly present in dermatitis, the margin is usually abrupt, and irregularly shaped bullæ appear on the surface. When the hand is applied to the part it feels hot, and there is a brawny, firm feeling different from the less dense swelling usually accompanying dermatitis. Sometimes the red colour is not present. Whether this is due, as in urticaria, to the amount of exudation emptying the vessels,

is, so far as I know, undecided, but "white erysipelas," as it has been called, certainly does occur.

TREATMENT.—*Ichthyol* is by far the best treatment for erysipelas. It may be applied in an aqueous solution of 20 per cent, or in an ointment $\mathfrak{z}\text{j}$ – $\mathfrak{z}\text{j}$. Either should be applied continuously, and usually the good effects are apparent in a few hours. So certain is it in its effects, that it is hardly necessary to administer iron, though in the pre-*ichthyol* days it was the custom to prescribe $\mathfrak{m}\text{xx}$ doses, three or four times daily, of the *liq. ferri perchlor.*

(PURULENT INFLAMMATION.)

FURUNCULOSIS.

(*Furuncle*—a boil, from "*fur*," a thief.)

"Boils" are but too familiar, and in the older works are honoured with long descriptions of themselves and their varieties. The boil is caused by the *staphylococcus*, which, gaining an entrance to a hair follicle, multiplies there, and eventually breaking its way through the wall, leads to a deep thickening. In the centre of this is the necrotic "core" in which millions of cocci are present. While most often seen in those who are run down, they are frequently found in persons of full vigour, and are still often looked upon as a matter for congratulation, as evidence of robust health. When occurring in the healthy, some local cause is usually to be found. The boils at the back of the neck are undoubtedly due in some instances to the contamination of the collar of some particularly comfortable old smoking jacket, while those about the anus are in some cases due to want of absolute cleanliness, or to similar contamination from the clothes. Their occurrence in the course of diabetes or Bright's disease must be borne in mind; but whatever the general predisposing condition, local infection is a *sine qua non*.

TREATMENT.—This must be two-fold; local and general. The indications for the former lie on the surface. Probably no other method is so satisfactory as the application of *Unna's mercury and carbolic plaster*. Boils which appear as if they must inevitably burst, slowly melt away under its continuous application, while less advanced ones disappear as if by magic. When rupture is inevitable,

they should be opened and dressed with boracic lint and protective. The poulticing so dear to the lay heart should be absolutely interdicted; there are few better methods of spreading boils than a linseed poultice. If there are any pustules in the neighbourhood, perhaps in any case, the whole region should be treated with dilute ammoniated mercury ointment.

General treatment consists in the administration of tonics, such as iron and phosphorus. *Yeast*, a very old-established domestic remedy, has the approval of more than one experienced dermatologist, and is probably worth a trial where it is easily procured, the patient drinking every morning a tumbler of fresh yeast from the surface of the fermenting tub. *Levurine*, prepared from yeast, may be used if no fresh yeast is procurable. In a small proportion of cases the results following the administration of *sulphide of calcium* are most satisfactory, the boils disappearing very rapidly. It is usually prescribed in pill form, $\frac{1}{8}$ of a grain three or four times a day. According to Ringer, it is much more efficacious when freshly dissolved in water and taken in small doses every hour.

(NECROSING INFLAMMATIONS.)

The local infective inflammations which show a tendency to break down, are all due to known organisms. Most of them also affect other organs, and are more fully described in text-books of medicine and surgery. They include the soft sore, noma, anthrax, glanders, and actinomycosis, in all of which the growth of the organism leads to necrosis and breaking down of the tissues. The first two are not usually regarded as skin diseases.

ANTHRAX.

(ἀνθραξ—a coal.)

The malignant pustule is the form of this disease that the dermatologist commonly has to deal with. It is acquired in one of two ways; either in butchering an animal with the disease, or in sorting wool and hides from diseased animals. The occupation, therefore, of the patient is a great indication and help to diagnosis.

The pustule commences with an itching red spot not unlike the bite of an insect. A vesicle rapidly develops,

and very rapidly dries up into a *dark, reddish black slough*. The tissues immediately around this become indurated, and a wreath of secondary, smaller vesicles may form around the central slough. These are, however, not always formed, and the term "pustule" is a little apt to draw attention away from the hæmorrhagic slough, which is so much more characteristic, and is usually present when the case comes under observation. There is at this stage comparatively little constitutional disturbance; the contest between the organisms and the tissues is a purely local one; and it is only when it has terminated in favour of the bacilli, that they obtain access to the blood and give rise to *splenic fever*. The disease has another local method of attack, probably due to a deeper inoculation. In this form the black eschar is absent, and the local change consists in an œdema of the tissues. This is known as Anthrax œdema and Anthrax erysipelas, to the latter of which it has some resemblance. It is a more serious disease than malignant pustule.

DIAGNOSIS.—Theoretically, one should be able to find the anthrax bacilli in the discharge, but as a matter of fact they are not so easily found, and indeed even when the excised lesion is examined microscopically, they are not always easily detected, though they are usually readily enough cultivated. For diagnosis, however, the cultivation test is useless, for no one would be justified in leaving a case supposed to be anthrax untreated until a cultivation was made, and the diagnosis must rest in most instances on the history of the case, and the characteristic appearance of the black central slough.

PROGNOSIS.—In some cases the patient's tissues (leucocytes?) are strong enough to destroy the bacilli, and malignant pustule may terminate favourably without any treatment. If the lines of defence break down and splenic fever develops, the prognosis is very grave.

TREATMENT.—Excision used to be regarded as the only justifiable treatment of the malignant pustule. There are, however, many who not only consider excision as useless, but believe the patient has a better chance of recovery without it, and these recommend the application of carbolic poultices or of mercurial ointment. Some inject carbolic acid into the tissues around the lesion. While my personal experience of the disease has not been large, I have in examining excised pustules more than once been struck

by the small number of organisms present, and their limitation to the superficial regions. The part excised has always been apparently unnecessarily large, and there is a good deal of testimony favourable to the expectant method of treatment. Everything must be done to support the patient, so that his power of destroying the organisms may be increased.

GLANDERS.

(*Glans—a gland.*)

This, too, is a disease which presents itself in two forms, either local or generalized. Like the preceding one, it is connected with employment, and is found almost exclusively in those who have the handling of horses. Still, both may occur accidentally in others, and in neither must too much stress be laid on the occupation.

The form of the disease which comes under the notice of the dermatologist is the single ulcer, which appears usually on the face or hands, and is exceedingly puzzling as to diagnosis. Somewhat resembling a syphilitic ulcer, it develops even more rapidly than that, and is of course unresponsive to anti-syphilitic treatment. Here cultivation is of more value in diagnosis, for the disease is not so rapidly fatal as anthrax, and by passing some of the discharge from the ulcer through a guinea-pig, cultivations of the *Bacillus mallei* may be procured.

The only treatment of any use is the radical destruction of the ulcer by the *actual cautery*, no attention being paid to anything save the destruction of the diseased tissues.

ACTINOMYCOSIS.

(*ἀκτίς—a ray, μύκης—a fungus.*)

Pearl or Wooden Tongue has been long known as a disease of animals, and although a case of the affection in the human subject was recorded so far back as 1845, it is only comparatively recently that it has been generally recognized. While the parasite usually enters by one of the mucous surfaces, the skin is not infrequently the seat of its first attack. The disease is found in those who are connected in any way with farming, or with the handling of hay and straw. The lesions on the skin, which are usually secondary to deeper disease, are quite characteristic. The

only word to describe the appearance is the vulgar one of "blob." The granulations are like little sticky drops, reddish in colour, emerging from a reddened, thickened, fistulous opening, from which issues a fluid containing little sulphur-yellow granules. *Plate XXX*, which is from a photograph kindly lent me by my friend Prof. Boeck, illustrates the condition excellently. The disease varies in its extent; it may attack downwards, reaching the bones or vital organs, and ultimately terminating fatally, or it may remain local for a considerable period.

DIAGNOSIS.—The little yellowish grains which are present in the discharge consist of masses of the ray fungus. The granules consist in the centre of a felted mass of filaments, which are modified at the periphery into the characteristic club-shaped structures. The microscope is of more immediate value in this disease than in the two preceding ones, for usually some fragments of the fungus may be detected in the discharge.

TREATMENT.—Surgical methods, scraping out the sinuses, and the application of carbolic acid or some similar application, are indicated. Most, however, is to be hoped from the internal administration of large doses of *iodide of potassium*. Whether, as in syphilis, the iodide rather removes the products than destroys the cause of the disease, is possibly open to discussion, but it certainly promotes the absorption of the swellings and the healing of the sinuses, and it may be that the patient's juices destroy the fungus. It should never be omitted in any case.

(THE GRANULOMATA.)

The local infective inflammations of the corium which show a *tendency to form growths*, are rhinoscleroma, yaws, mycosis fungoides, syphilis, tuberculosis, and leprosy. It is true that many of these ultimately break down, but they are distinguished from the preceding class by their having a longer formative stage.

RHINOSCLEROMA.

(*ῥῖν*—the nose; *σκληρὸς*—hard.)

This is a very rare disease, and consists in a peculiar hardening of the tissues of the nostrils and upper lip. Commencing unobserved on the nasal mucous membrane,

PLATE XXX.



ACTINOMYCOSIS.



it goes gradually on until the parts have acquired a cartilaginous hardness, and the nostrils are obliterated by the enlargement of their walls. It is due to a specific bacillus somewhat resembling the pneumococcus, which can be easily cultivated.

Formerly, treatment was directed entirely to palliating the condition, and keeping the nostrils open by tangle tents, etc. More recently attempts have been made to produce an antitoxin, which has been used in some cases with benefit. Lang injects a 2 per cent solution of sod. salicyl. and administers the same drug internally. No case has as yet been observed in Great Britain.

YAWS, or FRAMBÆSIA.

(*Fr. framboise—a raspberry.*)

This is a disease of the skin found in certain tropical countries, *e.g.*, Ceylon, the West Indies, South America, and Madagascar. It runs a course somewhat like that of syphilis, but in the opinion of those who have practised in those countries, and have consequently had the opportunity of investigating the disease carefully, it is quite distinct from that disease.

McLeod, who has recently published the results of his very careful histological examination of the lesions from various stages of the disease, says that it is not more difficult to differentiate typical Yaws from syphilis histologically, than to distinguish between the histological pictures of tuberculosis and syphilis.

There is a prodromal stage, most marked in children, in whom the disease is commonest, with symptoms somewhat resembling those of rheumatic fever. Then appears a local sore (usually extra-genital) and a secondary rash, in which a number of yellowish red lumps (yaws) appear. These enlarge and become crusted. When the crust falls off a papillomatous growth, from which issues a malodorous, sticky discharge, is disclosed. Papules sometimes appear on the mucous membranes. Tertiary symptoms only rarely occur, and Kynsey, who had an extensive experience of the disease in Ceylon, says these should be looked on as mere accidental sequelæ.

DIAGNOSIS.—The only disease with which it can be confounded is syphilis, and the following differences are noteworthy: Frambæsia occurs most commonly in childhood,

and is rare after thirty-five. The eruption is *always the same* and is *always itchy*, it leaves no scar, and never affects anything but the skin and mucous membranes; iritis never occurs, and the disease is never congenital.

TREATMENT.—Tonics, such as quinine, appear to be the most general favourites. Mercury and iodides are frequently prescribed; in Kynsey's experience they were worse than useless.

MYCOSIS FUNGOIDES.

(μύκης—a fungus.)

"In presence of a chronic ambiguous pruritic dermatosis, rebellious to ordinary treatment, which assumes the form of a vague erythrodermia, of a psoriasis, of an eczema, of a rebellious urticaria, of a lichenoid prurigo, etc., it is necessary to bear in mind the question of a possible Mycosis fungoides" (Besnier).

The term was introduced by Alibert, and remains in use, although the word "mycosis" must not be understood to indicate that any "fungus" is present. It is fortunately a comparatively rare disease.

It commences with an eruption which may be urticarial, erythematous, vesicular, scaly, or eczematous, and it may remain in this form for many months, or even years, before the later and more serious development of tumours commences. These vary in size and shape, and are usually of a deep red colour until the surface takes on a catarrhal action, when yellow crusts appear; then the surface softens, parts of it break down, and fungating masses are developed. The two annexed plates (XXXI, XXXII) of a case under the care of my friend, the late Mr. Dale James, show the two stages of the malady. Seven months elapsed between the taking of the first and the second photograph.

Sometimes the tumours become pedunculated and drop off. According to Unna, the commonest form of the disease tends to begin above, and spreads downwards in the same way as seborrhœa does; and he appears to regard the moisture which develops on the surface as indicative of a complication with seborrhœa. In a case under my care this view seemed to be borne out, for the true mycotic tumours had here and there among them typical seborrhœic warts. The duration of the disease varies; cases have

PLATE XXXI.



MYCOSIS FUNGOIDES.

PLATE XXXII.



MYCOSIS FUNGOIDES.—LATER STAGE.

PLATE XXXIII.



MYCOSIS FUNGOIDES.
(Jamieson's Case, June, 1902.)

PLATE XXXIV.



MYCOSIS FUNGOIDES.
(Jamieson's Case, October, 1902.)

been known to last as long as fifteen years, but as a rule death results in from three to five.

The nature of the disease is quite obscure. It has many resemblances to sarcoma, but the internal organs are never affected. The tumours are composed of small cells of the connective tissue type, and most observers regard the disease as in all probability a granuloma. Organisms have been found by several investigators, but not invariably, and there is no proof of their connection with the disease. In none of the cases which I have examined could I satisfy myself that certain micrococci present had any relationship to the disease.

Death usually results from exhaustion, brought about by the softening of and suppuration around the growths.

TREATMENT.—Formerly all that could be done was to keep the parts clean, and so protect the patient from the additional suffering of septic absorption. In the X-rays we have, however, a remedy of almost miraculous virtue. They were first used by Allan Jamieson, and through his kindness I am enabled to introduce photographs showing their effects in the first case in which they were applied. (*Plates XXXIII, XXXIV*). Two years have elapsed since the last photograph was taken, and the patient is still actively engaged in her domestic duties.

In certain forms of leukæmia in which tumour formation occurs in the skin, the resemblance to this disease is somewhat close. They are much more rapid in their development, changes in the blood are easily observed, and a fatal termination comes about much more quickly.

SYPHILIS.

For a description of the primary lesions and the disease as a whole, special monographs or text-books on surgery must be consulted; here we are simply concerned with its manifestations on the skin, and these are so numerous that they can only be treated with comparative brevity. It is not very easy to lay down definite rules as to the periods in which the different skin eruptions appear, and to say this is a secondary eruption, that a tertiary one. So far as possible, however, they will be dealt with according as they appear early or late in the course of the disease.

The earliest rash is the roseola, which appears on the trunk from six to ten weeks after infection. As a rule this

is a mere erythematous redness, often only discoverable with difficulty, and most evident immediately after the patient has removed his clothes or after a bath. Exceptionally, this rash is more developed, and an exudation accompanies the erythema, leading to a pretty close imitation of erythema multiforme. Very exceptionally, small bullæ may be developed on the erythematous patches.

The next rash in point of time to appear is the scaly one, which is so often described as syphilitic psoriasis. Syphilis and psoriasis are two distinct diseases, and if the old meaning of the latter term is to be retained, the term is utterly incorrect. If, on the other hand, the views already put forward to the effect that seborrhœa and psoriasis are practically one and indivisible, are accepted, then there is perhaps something to be said for the term. This scaly rash is a combination of the early tuberculous syphilide and seborrhœa, the two diseases mutually favouring each other's development. The seborrhœic catarrh on the surface induces a hyperæmia, which apparently favours the growth of the syphilitic virus, while that in its turn provides a *locus minoris resistentiæ* for the growth of the seborrhœic organisms. This rash follows the distribution and spread of seborrhœa. Commencing on the head, it spreads on to the forehead, where it forms a "Corona Veneris," and then to the trunk and limbs. In many respects the spots closely resemble those of seborrhœa corporis, but there are one or two important differences which make the differential diagnosis easy. The colour is a much *deeper red* than that of seborrhœa, and when the hyperæmia is dispelled by pressure, a brownish yellow tinge remains. A still more marked difference is felt on palpating the spots. The lesions of seborrhœa are slightly raised above the surface, but this increase is perceptibly mainly due to thickening of the skin; in the syphilitic lesion the increased resistance is much more marked, and though partly in the skin, it is mainly *beneath* the surface—a feeling of new growth is conveyed to the finger. *Plate XXXV* is an illustration of this early tuberculous syphilide. No definite history of infection could be obtained; it probably occurred about three months previously. The colour of the eruption is fairly well reproduced. Had the patient also had seborrhœa, the eruption would have had the character of the so-called syphilitic psoriasis.

PLATE XXXV.



SYPHILIS (SECONDARY).

All the varieties seen in seborrhœa may be present, the spots may be very dry and covered with silvery white scales, or they may be moist and be surmounted by yellow, greasy crusts; it is exceptional for them to weep. At the contact surfaces, particularly between the buttocks, growth may be very active, and warty, condylomatous growths may appear.

Less frequently at this stage the eruption may be pustular or bullous. In fact there are very few diseases of the skin which may not be imitated by syphilis. It must therefore never be forgotten that **the skin eruption is not the only lesion**, and the diagnosis of syphilis should never be made from the skin eruption alone. Hardening of the glands, ulceration of the throat, and mucous patches in the mouth should be carefully sought for. The eruptions at this stage of the disease pass away without leaving any trace of their existence.

The next rash in point of time to appear is rupia, of which Mr. Hutchinson very truly says that "although of all others the most easy skin disease to represent in a portrait, you scarcely ever see it in practice." The limpet-shaped scabs are very characteristic, and the rounded numular scars which they leave are almost equally so.

The tertiary period is associated in the student's mind with the gumma, and he sometimes forgets that there are several other forms in which the disease may appear. Gummata may be cutaneous or sub-cutaneous, the latter being the more common. A swelling, varying in size, appears on the skin, which is generally slightly discoloured. Usually suspicions of its nature are aroused by a peculiar rounded softening in the centre, which gives to the finger the sensation of feeling the empty mouth of a medicine bottle through some overlying substance. This breaks down, and we then have the typical gummatous sore. Cutaneous gummata are naturally more superficial, sloughing is more rapid, and the excavations are not so deep. They are most common on the legs, especially about the knee, though they may occur at any part of the surface. Cutaneous gummata are very frequently multiple, appearing in groups, and in healing there is a degree and form of pigmentation which it is of the greatest value to be familiar with, not only in the diagnosis of other forms of skin eruption, but of any obscure ailment from which the patient may suffer. The pigmentation is considerable in amount,

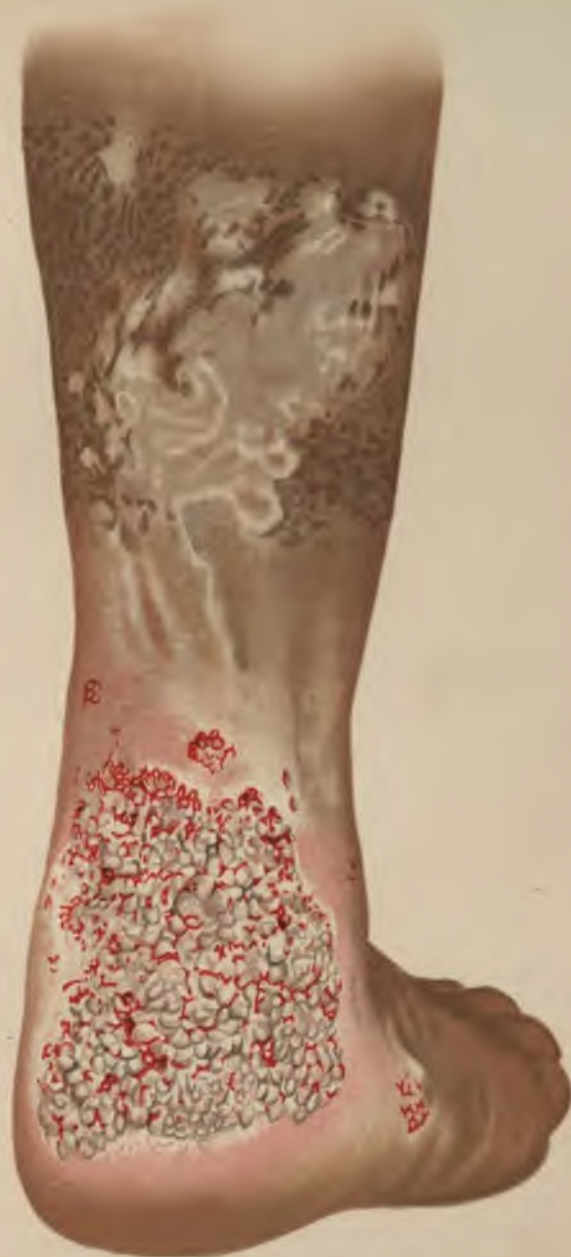
in colour it is a mixture of grey and brown, and the scar, which stands out white against the surrounding pigmentation, has a peculiar "scalloped" outline. (*Plate XXXVI*).

The late scaly syphilide is most frequently seen on the palm or sole. Usually it is unilateral, and this is a great help in the diagnosis, for the eruption has often little to distinguish it from "eczema." That disease almost invariably attacks symmetrically, unless the patient's work is such that only one hand is irritated. Occasionally, syphilis attacks both palms, or both soles.

Another form of tertiary lesion is the ulcerating crusted syphilide. In this form, which may be very widespread, the surface is covered with evil-smelling crusts, beneath which an ulcer is concealed. These ulcers spread serpigiously, and often give rise to very great destruction. It is in this form that the "horse-shoe" or kidney shape is most typically developed. It is most apt to occur in patients who have neglected treatment in the early stages of the disease.

The next variety of tertiary eruption is that which for lack of a better term we may call lupoid syphilis. All that is meant by the use of the term "lupoid" is that the lesions somewhat resemble the apple-jelly nodules of lupus. As a rule they are redder in tinge; syphilitic lesions are more vascular than those of tubercle. In my experience this is one of the latest manifestations of the disease, and its true nature is often overlooked. I have seen it appear as late as twenty-five years after the original attack, the patient having had no eruptions in the interval.

DIAGNOSIS.—In no disease of the skin is accuracy of diagnosis of such importance as in syphilis, and many a doctor has had bitter cause to regret having diagnosed it when the patient was suffering from some other disease, over the contracting of which he had no control. In the Lock departments of hospitals it is the local lesions which mainly come under the student's notice, while in practice it is usually from the eruption, etc., that the diagnosis has to be made. History is of little value. Not only is the word of those who have contracted the disease in the usual way generally unreliable, but the disease is by no means infrequently accidentally acquired by the innocent, and so in a doubtful case the most intimate knowledge of the high character of a patient must not determine the observer to exclude syphilis. Some err in the other direction,



SYPHILIS (TERTIARY).

1

and are too ready to label as syphilis any skin disease with which they are not familiar, and thus much family trouble and sometimes considerable pecuniary loss to the doctor results. Syphilis should never be diagnosed from the skin eruption only. At the secondary period, hardening of the glands, especially those behind the sternomastoid and the supra-trochlear, should be sought for, and the throat and mouth should be examined for ulceration and mucous patches. Redness of the fauces goes for nothing; in syphilis there is distinct ulceration—the snail track—on the tonsil or soft palate. Only when these are discovered, is it wise to put definite questions as to the contracting of the disease. The characters of the eruption have already been referred to, but it is well to bear in mind that multiformity of the lesions is a very usual feature, and that papules in one place, vesicles in another, and crusts in a third, are more frequent in syphilis than in any other disease. In the later stages of the disease (gummata, ulcerating tuberculous syphilide, etc.) evidence of past disease in the shape of scars may nearly always be found. Their character has been already referred to, and may be seen in *Plate XXXVI*. That eruption had lasted over fifteen years, and presented a papillomatous surface, not I think common. The shape and colouring of the scar are, however, extremely characteristic. The course of this case was very instructive. For years he had been treated with iodides with very little benefit. Under large doses of that drug, combined with the local application of mercury plaster, there was complete healing in six weeks. While scars may of course be found in any situation, they are very commonly found just below the knee. The “tip” of an old clinician that “scars in the neighbourhood of the knee are always syphilitic,” is not far off the truth.

TREATMENT.—There are few diseases where the treatment is in its main lines so simple as this. It seems incredible that there are still some who persist in treating it without *mercury*, for they practically allow the disease to run its course. Fortunately for the public they are now few. All the leading syphiligraphers of the world are united on that point, if on few others, the point over which they chiefly differ being the form in which the drug should be administered. There are three main methods, for the fumigation method has been practically abandoned. These three are, administration by the mouth, by subcutaneous

injection, and by inunction. To these must be added the inhalation method, referred to on page 15. The first is the one which is most favoured in this country, and in most cases it is quite satisfactory. Half a grain of grey powder made into a pill and given three times a day is a convenient form. So is calomel in suitable doses, and perhaps the most popular form in Edinburgh is the solution of the perchloride, $\frac{1}{12}$ of a grain given three times a day. The red iodide has its followers, and indeed any of the salts may be given. Subcutaneous injection is largely used on the Continent. It has the merit of accurate dosage, and the patients are more under control. Many still use perchloride, and inject from $\frac{1}{8}$ to $\frac{1}{4}$ of a grain into the buttocks once in every five, six, or seven days. The pain is not severe, and soon passes away, and, as may well be expected from the nature of the drug introduced, abscesses from organisms are rare. Other forms are sometimes used; grey oil (a mixture of metallic mercury and oil), calomel, and an albuminate of mercury. All have their advantages, and all have their disadvantages. The insoluble preparations are a little uncertain, their conversion into soluble ones and their consequent activity appearing to be beyond control.

Inunction is the most efficient, the most unpleasant, and the most uncleanly method. In any case where the symptoms are serious, and it is desirable to get the patient rapidly under the influence of mercury, inunction is the method to be followed. About a drachm of the ointment is rubbed into a different part of the body every night. The usual course is the front of the chest, sides of the chest, the groins, the upper arms, the thighs, and the legs. On the seventh day the patient is allowed to rest and bathe. The course usually lasts from three to six weeks. A somewhat more cleanly method of inunction is the use of mercury soap. It is very easily used, attracts no attention, and is particularly suitable for commercial travellers and those who are unable to get treatment thoroughly carried out. I have more than once succeeded in dispelling late manifestations by simply directing the patient to wash his hands and feet alternately with mercury soap. The lather is of course to be rubbed in till dry. The Mercolint Bib is the simplest of all methods of treatment, and entails least trouble on the patient. Blaschko, who introduced it, says that it is of less value in recent cases, but such has not been my experience (see p. 15).

In the later stages the iodides have their place, though I fully share Whitla's view that "iodide relieves, but mercury cures," and I almost invariably prescribe them together. Every now and then one meets with patients who cannot take iodide. Some of these can take it when combined with pepsencia, and others can tolerate iodine in other combinations. In many cases large doses of iodide are necessary before improvement sets in. Because a doubtful case does not improve on ten grains of iodide three times a day, it by no means follows that it is not syphilis. In gummata, and in the ulcerative forms of the disease, the local application of mercury is useful. Unna's mercurial plaster, or simple ungt. hydrarg., kept continuously applied to the part, hastens the cure.

TUBERCULOSIS.

Lupus Vulgaris is the most common form of tuberculosis of the skin. It presents many clinical varieties, which differ according to various complicating and secondary changes. It may be well at this stage to state that I entirely separate the disease known as Lupus erythematosus (*q.v.*) from the disease under consideration.

The simplest and the most typical form of Lupus vulgaris is that where there are found in the skin those lesions which are described as the "*apple-jelly*" or "*barley sugar*" nodules of Hutchinson. These are yellowish-brown areas about the size of a hemp seed; they may be found discrete, or may run together to form irregular areas. They are evidently *in* the skin, and the epidermis runs unbroken over them. They are too small for the finger to appreciate the fact, but the pressure of a probe demonstrates that they are softer than the rest of the surface. Their true colour is best displayed by pressing on them a piece of glass (a microscopic slide will do; I use the condensing lens of a Hartnack's microscope), for the pressure dispels any complicating hyperæmia, and no amount of pressure will cause the typical nodule to disappear. This method, which Unna calls the "*diascopic*," is of great value in the diagnosis of a doubtful case.

When examined microscopically, these nodules are found to consist of a collection of those cells which Unna calls plasma cells, and which are best known in this country as epithelioid. These are aggregated into little round areas,

ten or a dozen of which go to make up a clinically visible "apple-jelly" nodule (*Fig. 42*). Occasionally a giant cell may be observed among them, and very occasionally a tubercle bacillus.

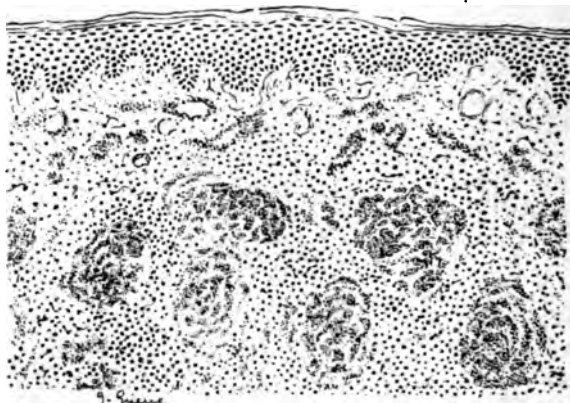


Fig. 42.—Lupus vulgaris simplex. The corium is studded with little collections of tuberculous follicles which make up the apple-jelly nodules. The vessels are dilated and the tissues between the nodules contain many leucocytes. The epithelium is slightly œdematous, and the horny layer is irregular; $\times 75$.

At this stage, which may conveniently be styled *Lupus vulgaris simplex*, the disease may remain in cleanly, healthy persons for an indefinite period, giving rise to no inconvenience except from its appearance, and spreading very slowly or not at all. Any part of the body may be affected, though, as afterwards referred to, lupus has its preferences and favourite seats. *Plate XXXVII* is from a long-standing case of almost uncomplicated Lupus. The brownish-yellow "apple-jelly" nodules stand out very prominently, and are as usual most numerous at the margin. In the scar area over which the disease has passed many still remain. This is the rule. Lupus always leaves traces of its presence in the scar.

The disease, however, only exceptionally follows this simple type. The most common complication, so common as to be to most the typical form of lupus, is that of catarrh. Just as in catarrhal tuberculosis of the lung, the catarrh is due to the addition to the original disease of other organisms, so, in the skin, micrococci are responsible for the change which converts a mere disfigurement



LUPUS VULGARIS.



into a disagreeable, discharging eruption. The brownish-yellow nodules become concealed by dirty yellowish-black crusts, and pus constantly exudes from the apparently raw surface. This stage of the disease has long been known and described as *Lupus exulcerans*, but there is no ulceration in the true sense of the word. However ulcer-like the case may appear, careful examination will disclose the fact that the surface is still covered, imperfectly it is true, with epithelium. The epithelium is swollen, distorted almost beyond recognition, but it is still there. The process is essentially one of catarrh (*Fig. 43*). In sections appropriately stained, there are found on the surface myriads



Fig. 43.—Catarrhal Lupus. Leucocytes are present in such amount as to completely conceal the tuberculous structure. Traces of epithelium covered the whole surface, and the overlying crust teemed with micrococci; $\times 50$

of cocci, and to these the purulent discharge and crusting are due. The true skin is so packed with leucocytes as to make it difficult in the majority of cases to recognize the tuberculous nature of the disease. But a few weeks' appropriate treatment, and the apparent discrepancy is cleared up—destroy the pyococci and the catarrh disappears, leaving the simple variety of the disease.

Another common variety of lupus, which also has its analogy in the lung, is **fibroid** Lupus, often erroneously called *Lupus verrucosus*. Fibroid lupus is most frequently seen on the limbs and buttocks. It is exceptional on the face; in the only case I have seen in that situation, the

diagnosis was so doubtful that I recommended its excision by a surgeon, on the suspicion that the disease was malignant. In it there is an excessive production of fibrous tissue, and the tuberculous nodules are few in number. They also show evidence of their chronicity in the presence of (for Lupus) an excessive number of giant cells. There is also some evidence of increased activity of the epithelium, but as shown in *Fig. 44*, there is no true warty formation.



Fig. 44.—Fibroid Lupus. Dense connective tissue. The tuberculous areas contain numerous giant cells, and the surface epithelium is as usual increased in amount; $\times 75$.

True warty lupus, **Lupus verrucosus**, is probably due to the addition to the Lupus of the cause, whatever it may be, which produces warts. It occurs especially on the hands and on the buttocks. The same growth of epithelium is seen as in warts, with long processes of connective tissue-forming cores for the epidermic cylinders. As a rule the warty growth and the lupus are co-extensive, but in one case of mine, in some of the spots, the warts lasted longer than the tuberculosis.

Verruca Necrogenica, or the **Post-mortem Wart**, is that form of tuberculosis of the skin which appears on the hands of butchers and pathologists, and it would seem a matter which will require a good deal of explaining away if Koch's new theory is to be accepted. It is the most benign form of tuberculosis, and indicates the vigorous reaction of healthy tissues to repeated inoculation with the bacilli. A great part of the growth is epithelial, as the name suggests, but there is also a good deal of fibrous

thickening. It is commonly situated at the side of the nails, or on the knuckles, and may persist for years, undergoing very little alteration, and ultimately disappearing if re-inoculation is avoided.

Lupus is most common on the face, and in a great number of instances it begins on the mucous membrane of the nose or the lacrymal canal, and lurks there unsuspected perhaps for months, before it reaches the skin. Probably the next commonest seat is the buttocks, and then come the hands, feet, and limbs. No part of the body is however exempt. On the scalp primary Lupus is exceedingly rare, though the disease may spread to it from neighbouring affected areas. It is suggested that in some instances flies are responsible for the inoculation of the disease.

DIAGNOSIS.—This is usually easy. Almost always at some part of the affected area "apple-jelly" nodules can be detected, and the diagnosis is never absolutely certain until these have been recognized. Not infrequently, however, they are obscured by some of the complicating processes. The catarrhal process very rarely conceals them entirely, for it usually affects the borders, where these nodules are most numerous, less than the centre. But in the warty and in the fibroid form of the disease they are often exceedingly difficult to recognize. In all cases the use of the diascopic method is to be strongly recommended. It should be remembered that freckles do not disappear under the pressure.

In addition to direct observation, a good deal of useful information can be got from the history. It is not likely that a patch of eczema, or, indeed, of any other inflammation of the skin than a tuberculous one, would last for eight or nine years, as these cases frequently do; and suspicions of a tuberculous nature being aroused, careful examination will usually lead to their confirmation. The greatest difficulty in connection with diagnosis is when a chronic ulcer occurs on the face of a patient of middle age. The two diseases which may be confused with tuberculosis under such circumstances, are syphilis and rodent ulcer. There are certain differences between each, but these differences must be estimated as a whole and together; too much stress must not be laid on individual ones. Tuberculosis is most apt to commence in youth; syphilis and rodent ulcer toward middle age. The rate of progress is slow in tuberculosis, rapid in syphilis, and slow again

in rodent. There is nothing definitely characteristic in the syphilitic ulcer, but the apple-jelly nodule of lupus and the pearly edge of rodent ulcer, are each almost pathognomonic. Rodent ulcer is nearly always single, tubercle in this situation very often so; if carefully sought for, some other sign of syphilis will almost always be found. If dependence is to be placed on the effects of treatment as a means of diagnosis between syphilis and tuberculosis, the trial must be a thorough one, and judgment should not be entered on the results of one bottle of iodide of potassium mixture.

There is one routine examination which should never be omitted. No case of lupus of the face should ever be allowed to go with the mucous membrane of the nose and the gums unexamined. The proportion of cases in which the gum is affected is enormous, and the proportion of cases in which its occurrence is overlooked, lamentable. No fewer than 75 per cent of the patients in Finsen's Institute in Copenhagen are found to have some mucous membrane affected. Lupus of the mucous membrane naturally looks different from the disease in the skin, first, on account of the redness of the surrounding tissue, and second, because of the moist condition in which it is constantly kept. The nodules are usually a little elevated above the surface, and the whole area has an embossed appearance like shagreen leather. It gives rise to little inconvenience, and patients are frequently unaware of its existence.

PROGNOSIS.—This is by no means easy. Cases which are left to nature usually occur in the lower classes, where the added disadvantages of insufficient care, food, etc., must be taken into account. If a simple case of lupus were left to itself, and the parts kept clean, and if the patient happened to be in good circumstances, the natural course would be for the disease to extend very slowly though steadily. Any disturbance of health would always involve the risk of the catarrhal complication, with disfigurement and more rapid extension of the disease. On the other hand, cases are sometimes immensely improved by a simple change of residence to a more healthy locality, where the patient, usually a child, has the opportunity of being much in the fresh air. Indeed, it is unnecessary to waste words on this question. The prognosis of Lupus is exactly the same as that of tuberculosis generally. When it is

catarrhal, progress will be rapid; when it is fibroid, advance is slow.

When treatment is taken into account in the prognosis, we are still by no means certain of our ground. In the first place all these other factors, such as the health of the patient, the surroundings, etc., have to be taken into consideration. When that is done, we can consider the bearing of treatment directly and alone, and it must be most clearly understood by the patient that if he desires to get completely rid of his disease, which it is quite possible for him to do, he must submit to a prolonged course of treatment. The perfunctory surgical treatment of lupus, scraping a case and then not seeing it again for six months, has no prognosis, but if the case be carefully attended to after such an operation, the chances are by no means bad. The fibroid variety of the disease has the best prognosis (cases on the limbs often recovering without any treatment), while the catarrhal form has the worst. It must not be forgotten that in a certain number of cases of Lupus, carcinoma develops. The proportion is stated by some authors to be as high as 2 per cent. This development, of course, alters the character of the prognosis, for Lupus-cancer is specially malignant. Whether X-ray treatment has anything to do with the complication, is a question I have recently discussed elsewhere.* Briefly, my opinion is that while theoretically the treatment may favour the complication, practically the risk may be discounted.

TREATMENT.—Although in public hospitals some photo-therapeutic method is now almost everywhere the principal treatment, it must not be forgotten that circumstances prevent many from attending such an institution, and, further, that cases recognized early can be cured by less elaborate methods. I propose, therefore, first to discuss those methods which may be applied by anyone, and to refer less fully to the methods of radio-therapy, for those who use them have usually at their disposal special monographs on the subject. In dwelling so definitely on the varieties of the disease, and pointing out the essential differences of one from the other, my object was to make it clear that the treatment of all is not alike. Obviously the same treatment is not applicable to a case scabbed and discharging, as to a hard, fibroid patch. The object of

* *Scot. Med. and Surg. Journal*, July, 1904.

treatment is to reduce the complicated to the simple form, and then to treat the disease directly. This involves a separate consideration of the different varieties. After they have been dealt with, the treatment of lupus as a whole will be considered.

Catarrhal Lupus.—This, as the commonest form of the disease, may be taken first. As already pointed out, the catarrh is due to the presence of micro-organisms and their products, and these must be got rid of. Though there are many methods, the simplest and most efficacious is the sharp spoon. It removes diseased tissues and organisms *en masse*, and will do in ten minutes what less active treatment will take weeks to accomplish. It is not necessary to use much force: the catarrhal tissues are exceedingly soft and rotten, and can be removed with the greatest of ease. At the edge of the patch the spoon may be used a little more vigorously, but one cannot really hope to eradicate the disease by any amount of scraping.

If for any reason the patient objects to the operative treatment, a similar result may be achieved, though much more slowly, by the application of antiseptics. Brooke's ointment

R.	Zinci Oxidi	
	Pulv. Amyli	āā ʒij
	Vaselini Albi	ʒss
	Hydrarg. Oleat (5%)	ʒj
	Ac. Salicyl.	gr. xx
	Ichthyol	ʒ xx
	Ol. Lavendulæ	q. s.

enjoys a wide reputation in this connection, but any antiseptic constantly applied will produce almost as good results, as will also the administration of thyroid substance.

Fibroid Lupus.—Here the complication is the excessive growth of fibrous tissue, which must be got rid of before it is possible to attack the lupus directly. Scraping is useless. No surgeon with any ordinary instrument is vigorous enough to scrape away the tough fibrous tissue. The best method by which it can be dissipated is by repeated counter-irritation. Probably blistering fluid is as suitable an application as any other, but carbolic acid, the acid nitrate of mercury, and other caustics, may also be used. The reaction often does more than dissipate the fibrous thickening, for a large amount of the disease proper is also removed, and what is left is now open to direct treatment.

Warty Lupus. — In this, as already indicated, the warts are to be looked upon rather as an addition than as a complication. They are best removed by the knife or scissors, although they may also be removed by various applications, such as acetic or salicylic acid. If they are present over a large surface, the best treatment is to level the part with a razor, if X-rays are not available.

Lupus Vulgaris Simplex. — In dealing with the simple form of the disease (whether it has always been simple, or has been reduced to this from another form) our aim is the destruction of the tubercle bacillus. The first method of treatment which may be considered is that of excision. Theoretically, excision is the best method, but, unfortunately, the practical application does not coincide with the theory. Lang, of Vienna, apparently treats all his cases, however severe or extensive, by this method, but he seems to attain a degree of success which is not even distantly approached by any other operator. I have repeatedly seen cases aggravated by excision, the disease returning in the scars or grafts, often apparently with redoubled activity. The only form of the disease in which excision seems to me justifiable is the fibroid form, and in that the prognosis is so generally good that, unless in special circumstances, it is rarely, in my opinion, necessary. If excision is to be done, it *must be thorough*. The line must extend well beyond the external evidence of the disease, and the entire thickness of skin must be removed from the part. If it occurs on the face, the fact that the hair follicles often extend very deeply must be borne in mind.

The next method of treatment may be described as the directly destructive method. In this we apply to the skin drugs which have what is called a selective action, because they act very much more vigorously on the weakened, diseased lupus tissue, than on the healthy surroundings. This action is best demonstrated by the use of *arsenious acid*. This is made into a paste—

℞	Acidi Arseniosi	grs. x
	Hyd. Bisulph. rubr.	ʒss
	Ung. Rosæ	ʒss

and applied night and morning for three days. The pain is excessive, and it is often necessary to administer morphine. The whole region swells up, often to an alarming extent, and at the end of the third day the lupus nodules are seen as little black sloughs dotted here and there in an intensely

hyperæmic, swollen skin. These are thrown off, and under soothing remedies the swelling subsides. Nicholson recommends a paste of equal parts of arsenious acid, powdered acacia, and orthoform, the last ingredient to annul the pain of the arsenic.

The disadvantages of this method are the pain and swelling which it causes, and the unsightly scars which often result, unless very great care is bestowed on the management of the resulting granulating surface.

Salicylic acid has a similar action. In no form is it so efficacious as in Unna's salicylic creosote plaster. Ointments with a similar composition are not nearly so satisfactory, and the plasters should always be preferred. They are made in different strengths, and the strongest which the patient can stand should be selected. The 30-40 formula is a fair average one. The plaster should be applied night and morning, and in a few days the lupus nodules stand out in the form of whitish sloughs, which can be wiped away with cotton wool. Now comes up the question of what is to be the further treatment. Many at this stage apply soothing ointments, as in the arsenical method, but if the patient has the fortitude to persevere in the use of the plaster until healing take place under it, the results are much more thorough, lasting, and satisfactory. Often, however, the pain is so great that he refuses to continue, and some other application must be used. Nothing is gained by promoting too rapid healing of the ulcers of the skin. Indeed, the longer the part is kept open and discharging, the longer does the benefit seem to last. Dry iodoform or a pretty strong iodoform ointment may be rubbed into the part; probably the iodoform destroys some of the bacilli which still persist. By several courses of this plaster the nodules may be so reduced in number as to be open to individual treatment.

They may similarly be reduced in number by another less painful method, viz., the very thorough application of *oleate of mercury*. The formula recommended by Allan Jamieson is :—

℞ Hydrarg. Oleat. 5%	℥j
Ichthyol	℥ xx
Acidi Salicyl.	gr. xx

This must be thoroughly rubbed into the part for at least twenty minutes every night, and ten minutes every morning. The results are usually very satisfactory.

When by one or other of these means the nodules have been reduced to a manageable number, methods such as the thermo-cautery are applicable. The ordinary Pacquelin point is too broad to be of any benefit at this stage. The point ~~must~~ be so fine as to enable one to pierce the individual nodules, and the best instrument for this purpose is Unna's "micro-brenner," in which a copper point is fused on to the end of the ~~platinum~~. With this any visible nodule is pierced and immediately destroyed. The galvano-cautery is more useful, mainly, I believe, because the burn is followed by a greater amount of reaction than that of the thermo-cautery, but it is of course not always available.

Another and a simpler method is the puncture of each nodule by a wooden match sharpened and dipped in some caustic, such as the acid nitrate of mercury. The simplicity of the method is a strong recommendation. The operation must be repeated and repeated until every single nodule has disappeared, and only then should the patient be released from observation, with orders to report himself at the first sign of recurrence. The fact that this preparation loses its strength when kept must be borne in mind, and the fresh preparation should be used with great caution, for it often produces a serious amount of destruction.

The disease may also be attacked indirectly. Probably the two methods, the direct and indirect, are always more or less combined, though usually one predominates over the other. The indirect method aims at setting up such a reactionary hyperæmia in the skin that the tuberculous material is destroyed indirectly.

When the disease affects the limbs the congestive method of Bier may be tried. This consists in applying a ligature so as to produce prolonged congestion of the part, and it is sometimes as useful in lupus as it is in tuberculosis of the joints.

More commonly the reaction is produced by the application of some irritant. I look upon the action of *carbolic acid* as almost entirely indirect. The slough produced by its destructive action is so superficial, that it notoriously leaves hardly any scar, and, therefore, its chance of penetrating down to the deeper nodules is very small indeed. It sets up, however, a considerable reaction, and under its application the nodules grow less in number and size. The *acid nitrate of mercury* may be used in the same way.

Kaposi used a solid stick of nitrate of silver, ploughing furrows in every direction through the disease ; but this method is only available in the catarrhal form, in which other means of treatment are preferable.

The *liquor antimonii chloridi* is another valuable application. It does not produce such severe immediate results, but after it has been painted on daily for a few days, the part generally becomes so tender that it must be intermitted for a time. I do not know any better application to entrust to the hands of a patient of only ordinary common-sense, than the liquor antimonii chloridi, and it has the further advantage that it may be applied to the fibroid form, and thus remove both the complication and the disease at once. Occasionally one hears complaints of severe irritation set up by this application, probably due to some free hydrochloric acid in the preparation.

Pyrogallol is another useful remedy. It is best used in the form of a 10 per cent ointment, which should be continuously applied. It sets up a considerable reaction, but as the effects of that are beneficial, it should not be stopped too soon.

In the selection of any of these methods one must be guided by a variety of considerations. The cosmetic effect is one of the most important. If the disease is on the face of a girl, one is bound to be more considerate of the resulting appearances than in the case of a male. In a working man, vigorous scraping with the sharp spoon may be used. This often results in somewhat unsightly hypertrophic scars, but the rapid removal of the disease is in such cases of most importance. In the case of a girl the spoon should only be used lightly, and should be directed to the removal of the diseased products, rather than to the removal of the disease itself. Arsenious acid, too, though thorough, is often followed by unsightly scars, and should not be used when appearances have to be considered. The applications which give the best cosmetic results, are salicylic acid, liquor antimonii chloridi, and pyrogallic acid, probably in the order named. If the disease is very extensive, of course the possibility of the absorption of any drug must be considered, as must the painful effects which they each produce. In such a case, probably antimony is as good as any other treatment, different parts being painted in succession. In children, the element of pain must be taken into account. It is obviously absurd to

expect a child to endure the constant boring pain of salicylic acid and some of the other preparations, and I believe, speaking generally, that in children the best application is carbolic acid. The pain is severe for the moment, but rapidly vanishes, and even though it may not be the most suitable application to the form of the disease, the fact that a patient is behind that, must, as Mr. Morris sagely remarks, never be forgotten.

Lupus of the mucous membranes is best treated by the application of strong *lactic acid*, the part being painted daily, or less frequently if the pain experienced is very severe. Improvement is usually obvious and rapid.

Radio-therapy.—In extensive cases of lupus there is now no doubt that radio-therapy has proved its merits. Cases which were practically hopeless may now pretty confidently be promised a cure, provided they have the necessary time to devote to the treatment.

I am most willing to admit all the merits of Finsen's method—the beauty of the scars, the practical absence of any risk in the treatment, indeed everything that may be claimed for it. I believe it is the duty of every large hospital to instal it in some form for the treatment of special cases; but I agree with Macintyre that the X-rays in experienced hands can do everything that the Finsen method can do, and a great many things that it cannot. I therefore unhesitatingly recommend that if only one apparatus is to be installed, it should be the X-rays. For this reason I think it unnecessary to devote much space to the Finsen method. It has been described *ad nauseam* in the monthly magazines, and those who have the opportunity of working with it have yet other sources of information. The essence of it is the concentration of the light-rays on a small area of skin. The exposure usually required is about one hour. Next day a small blister appears on the part, which is dressed with some healing ointment. The treatment occupies a very long time and is exceedingly expensive. Further, it is inapplicable to the mucous membranes, which are affected in certainly half the cases. But that the results achieved in suitable cases are admirable, no one can possibly deny, and persons affected with lupus of the skin only, to whom time and money are no object, will get better results from Finsen's than from any other method.

But for general use there is no question that the X-rays method is the more convenient. In the first place, the apparatus is not nearly so expensive; and secondly, its uses are not confined to the treatment of one disease. The rays reach parts quite inaccessible to the Finsen apparatus, while the treatment is much less irksome both to the patient and the nurse.

On page 29 I have referred to the methods of applying the rays. Where the patch of Lupus is small and defined, I believe it is quite a good practice to aim at the production of a smart burn. The lupus tissue is more easily destroyed than the healthy surroundings. Three or four exposures of twenty minutes' duration are sometimes all the treatment that is required. The resulting slough may take long to heal, but it requires nothing but simple applications, and does not interfere with the patient's work. If the disease is extensive, no such severe measures should be risked; the case should be kept just below the level of reaction. Some cases react much more rapidly than others, so that it is impossible to specify the number of exposures. I have seen much benefit from the simultaneous application of pure carbolic acid, and this is constantly used in the Royal Infirmary.

Both the new methods are followed by extremely satisfactory scars, infinitely superior to those produced by any other method of treatment. Their use does not prevent the simultaneous application of other remedies, and particularly, when the nodules are greatly reduced in number, they may be individually destroyed more easily and more rapidly by some of the simpler methods already referred to.

It will indeed be matter for regret if the perfectly just criticism of the reckless abuse of electro-therapeutic measures, should prejudice the adoption of really valuable methods of treatment. There are many cases of Lupus which are better treated by salicylic plaster than by phototherapy, and only harm can result from the wholesale treatment by one method only, by those who have no experience in the effects of others.

Radium.—In the treatment of small patches on the skin, and more particularly of lupus of the palate, I can speak very highly of this agent. Specimens vary so much in their radio-activity, that it is impossible to lay down any general directions as to the length of exposure, since it

varies from twenty minutes to an hour or longer. One must proceed with the same caution as when using the X-rays, for the reaction is often long delayed, and may be very severe. It is of little use for extensive cases, as the amounts available are so small, but for palatè lupus it is more useful than any other method.

Uranium.—I have just published (*Scott. Med. & Surg. Jour.* Sept., 1904) a preliminary note on the use of this substance. I have had it made up in the form of plasters, which can be applied to any part of the surface. In radio-activity it is of course far behind radium, but this is not altogether a disadvantage, as it seems almost impossible to do any harm with it. The cost is extremely moderate, and I am hopeful that uranium may occupy a considerable place in the treatment of Lupus.

INTERNAL TREATMENT.—There is no specific for Lupus any more than for tuberculosis in general. The only medicine which it is usually advisable to prescribe is cod-liver oil, which by improving the general condition of the patient, enables him more successfully to combat the ravages of the bacillus. Thyroid has already been alluded to. It certainly dissipates the catarrhal products, but has little further influence. Creosote, arsenic, chloride of calcium, and other drugs which have been recommended at one time or another, have, so far as I can judge, not the slightest influence on the disease. I have, I think, seen as much benefit from the administration of *urea* (gr. x. thrice daily), as from any other internal remedy.

There are one or two other forms of tuberculosis of the skin not included under "Lupus."

Scrofuloderma* is the term used to describe those cases of tuberculosis of the skin, where the infection proceeds from a tuberculous focus beneath. Thus, it is most common over broken-down tuberculous glands, and in the neighbourhood of fistulæ from tuberculous bones. The appearances are familiar enough. The reddened skin, often with a bluish tinge, the thin ragged edges, the comparatively scanty discharge, and the tendency to fibroid thickening in the neighbourhood, coupled with the chronic course of the disease, make up a picture which is easily enough recognized. The infection of the skin is,

* From *scrofa*—a sow; and *dépua*—the skin. Scrofulous glands on the neck were supposed to make the neck thick, like a pig's.

however, usually of secondary importance. The underlying disease is the essential element, and on its cure depends the progress of the skin malady. Sometimes the infection develops into true Lupus, which may persist after the under-lying disease has disappeared, but as a rule the cure of the one is associated with the cure of the other.

TREATMENT.—This really belongs to the surgeon. The case should be taken in hand by him long before there is any risk of infection of the skin, and with the improved modern methods of dealing with tuberculous glands, the disfiguring scrofulodermata of the neck are gradually becoming less and less frequent. When the skin is infected, and the focus beneath is comparatively small, a thorough scraping will in many cases successfully eradicate the disease. Scraping in Scrofuloderma is followed by a success unknown in the treatment of lupus. But it is well to recall once more what has already been said, that these cases are in the province of the surgeon, and if the medical attendant is not prepared to take them *thoroughly* in hand and treat them radically, he ought to hand them over to some one who is. Dermatology has suffered somewhat in repute, from the tendency of some of its exponents to trifle with some of its serious diseases.

The other forms of tuberculosis are more rare, and hide their identity and nature under other names.

Erythema Induratum Scrofulosorum, or **Bazin's Disease**, is an affection which occurs most frequently in girls and young women whose occupation involves a great deal of standing. It attacks the legs only, usually the lower part of the calf, posteriorly. One or more nodules develop below the skin, which takes on a livid bluish colour. Each nodule increases in size, and ultimately its centre breaks down; a slough separates, and the clinical resemblance to a syphilitic gumma becomes very close. An erroneous diagnosis is often made. The patient is put to bed. Large doses of iodide of potassium are administered, and the patient has the advantage of rest and hospital diet. When recovery takes place, the credit is attributed to the accuracy of the diagnosis, and the suitability of the treatment prescribed; nevertheless the patients do equally well if the iodide of potassium is omitted.

ETIOLOGY.—Some observers are sceptical of the tuberculous nature of this malady, but bacilli have more than once been found; inoculation experiments have

PLATE XXXVIII.



ERYTHEMA INDURATUM.

PLATE XXXIX.



ERYTHEMA INDURATUM.

several times been successful; the architecture of the growths is that of tuberculosis, and the positive evidence far outweighs the negative. Through the kindness of Dr. J. M. H. Macleod, I am enabled to give an illustration of a section from an excised nodule (*Fig. 45*).

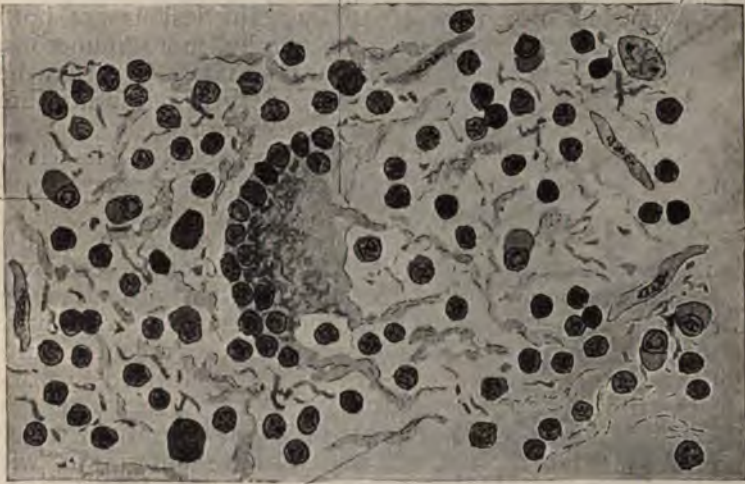


Fig. 45.

According to Whitfield, two conditions are confused under this name, one a tuberculosis, and the other a condition of vascular origin. This latter form occurs, he says, in later life, and is associated with phlebitis and some endothelial proliferation. This second group of cases is very much more amenable to treatment, and often a week's rest is sufficient to clear up all the lesions.

Plates XXXVIII and XXXIX give a good idea of the appearance of the lesions. *Plate XXXVIII* is from a case of my own, a little girl of eleven. The discipline of her school entailed prolonged standing, which no doubt was responsible for the outbreak of the disease.

Plate XXXIX illustrates the case of a young lady aged twenty, seen in consultation with my friend Dr. Doughty, of Dalston. It is of special interest, as it is one of the few published cases in which pulmonary tuberculosis (with numerous bacilli) was also present.

DIAGNOSIS.—The seat of the disease, the age of the patient, the history of prolonged standing, and the peculiar livid blue colour of the early lesions, make the diagnosis comparatively easy. The only condition with which it can be confused is the syphilitic gumma, and tertiary symptoms in young girls are at least very exceptional. Erythema nodosum, which is also common in young girls, develops much more rapidly; the lesions are both painful and tender, they are generally more numerous, they never break down, and are situated towards the front of the leg, whereas those of Erythema induratum almost always occur on the back and sides.

PROGNOSIS.—This is favourable; rest, etc., as described under treatment, almost always resulting in comparatively rapid recovery.

TREATMENT consists in rest in bed, elevation of the limb, generous diet, and the administration of cod-liver oil. The healing of the ulcers is often promoted by strapping of the part. During the past two years I have treated four cases of this disease with excellent results by the X-rays. In one case the patient continued to work all the time as a message girl.

Lichen Scrofulosorum.—This is an eruption which appears on the trunk of children who are suffering or will suffer from some form of tuberculosis. Most commonly it occurs in those who have either bone or lung disease. In using the expression "will suffer," one, of course, labours under the uncertainty, that the recognition of the skin disease directs attention to the possibility, and leads to the sometimes successful treatment of a tuberculosis which may not be otherwise recognizable. In this respect a knowledge of the disease is important, as it may be the first warning of the presence of tuberculosis.

The eruption is usually on the trunk, although in exceptional cases it may spread to the limbs and face. The forms it assumes vary. Some of the papules very closely resemble those of lichen in their shape, and have the burnished top which is so associated with that disease. But, as explained under Lichen, this is merely due to mechanical causes, and the papules have not the lilac colour of that disease. Others of them are pustular, while others again are covered with a tiny crust. Their distribution is irregular, but they show a tendency to group themselves in circles and segments of circles. This is

PLATE XL.



BLASTOMYCOSIS.

The nature of the disease has been investigated, especially by Gilchrist, Hektoen, Ricketts and others, who have successfully cultivated in considerably over half the cases, a yeast fungus, which when inoculated into animals showed pronounced pathogenic effects. As a rule, the exposed parts were affected, the face being involved in nearly half the cases, a striking contrast to the warty form of tuberculosis.

PROGNOSIS.—This is by no means favourable. In two instances death has occurred, and in others amputation has been necessary, while in the majority only improvement is recorded.

DIAGNOSIS.—From syphilitic ulcerations the diagnosis is not very difficult. The character of the lesions, the absence of any other evidence of the disease, and the more deliberate progress, serve to separate it from that malady.

From tuberculosis, which it somewhat resembles, it is best distinguished by the presence of the sloping border already alluded to. In tuberculosis the disease is usually most active at the margin. In Blastomycosis the greatest pathological changes are in the centre, and it is much more frequently multiple than the chronic variety of tuberculosis.

TREATMENT.—In most cases surgical interference similar to that used in tuberculosis is indicated. The parts may be scraped, or be treated by salicylic acid or other suitable caustics. Most benefit, however, is derived from the administration of enormous doses of *iodide of potassium*, a fact which has no doubt added to the confusion of certain cases with syphilis. There is, however, this distinction, that while the syphilitic lesions clear up entirely under that remedy, those of this malady, though they greatly improve, do not completely disappear.

LUPUS ERYTHEMATOSUS.

(*Erythema centrifugum*, *Ulerythema centrifugum*, *Seborrhœa congestiva*, "Batswing" or "Butterfly" lupus.)

Of all its many names, none is really quite appropriate. The use of the term Lupus leads to its confusion with tuberculosis, while none of the other names are altogether descriptive. Probably the best is the one suggested by Unna, *Ulerythema centrifugum*, from *οὐλή* a scar, since erythema, scarring, and centrifugal spread, are prominent characteristics of the disease. In the enormous majority

PLATE XLI.



LUPUS ERYTHEMATOSUS.

of cases (probably 80 per cent), the disease affects a certain limited area, the nose, cheeks, and ears; when the resemblance to a butterfly, the disease on the nose forming the body, and that on the cheeks and ears the wings of the insect, is very marked. The other situations on which it is commonly found are the hands and scalp. It is quite exceptional on the trunk and limbs.

The disease appears in several forms, some of them so rare that they need only be briefly alluded to. The rarest form is the generalized one, in which the whole surface of the body may be affected, leading not infrequently to a fatal termination. Another rare variety is the teleangiectatic, where there is comparatively little surface disturbance, but where the skin is intensely reddened from the dilatation of the capillaries, and a distinct white scar is left.

The two common forms in which the disease occurs may be described as the erythematous and the scaly varieties. A case may be entirely or mainly of one variety, or it may be mixed. The erythematous type is characterised by the development of one or more rounded, raised, reddened patches, which enlarge, flatten in the centre, and sometimes closely resemble ringworm. They usually disappear in the course of three or four months, and the scar which is left varies in depth, sometimes being scarcely perceptible. The border of the lesions often has a curious "stippled" appearance, which is shown in the accompanying plate (*Plate XLI*) taken from the case of a girl aged nineteen. On the right cheek, at the upper part of the patch, is shown the erythematous form of the disease, and at the lower border of both the larger patches on the cheeks, the "stippled" appearance referred to. The centres and the smaller patch on the left cheek show the fine white scar which is left by the disease. On the nose, and on the two small patches beneath the left eye, the sebaceous or scaly form of the disease is shown. This patient is now quite well, and the scars are hardly detectable.

On the fingers the disease is always of the erythematous type. The lesions closely resemble those of chilblain, and are often only distinguishable from these by the fact that they leave behind them a certain amount of scarring, which scarring often nearly disappears with time.

The scaly form of the disease appears on the face, ears,

and scalp. The first evidence of its appearance is a slight redness, and the mouths of the sebaceous glands are more prominent than normal, hence it was described by Hebra under the name of *Seborrhœa congestiva*. Very soon a little scale forms upon the surface, and if this is removed there may be seen dependent from its under surface little stalactite-like processes, which have been dragged, some of them from depressions in the horny layer, some of them from the mouths of the sebaceous glands. The disease spreads centrifugally, the centre undergoes atrophy, and more or less scarring results. The scales on the surface are of a peculiar greyish, mortar-like character, quite different from those of seborrhœa.

On the scalp, (*vide* Frontispiece), the area affected is irregular in shape, the centre is scarred, and feels firm, while the border is somewhat raised, carries scales on its surface, and often shows, here and there, the "stippled" appearance already referred to. The part is nearly but not quite completely bald.

There are no marked subjective symptoms; some patients complain of slight itching and burning.

PROGNOSIS.—The course of the disease is curiously erratic. While some cases get well spontaneously, others persist in spite of treatment for years, but except in the disseminate form, the disease does not threaten life. A few cases are on record where carcinoma developed.

ETIOLOGY.—In my first edition this disease appeared, as in Unna's classification, under the heading of retrogressive changes—atrophy after previous inflammation. Without criticizing his arrangement, I think it must be admitted that we do not yet know enough of the nature of the disease to definitely locate it, and it presents certain features in common with the granulomata; *viz.*, an active stage followed by a retrogressive one, terminating in a scar. For long the disease was confused with *Lupus vulgaris*, and there are still a few who find it easier not to recognize any important distinction between the two diseases. These, however, are only few in number; but the point still warmly debated is whether, although *Lupus erythematosus* is not tuberculosis of the skin, it is nevertheless an affection brought about indirectly by tuberculosis.

The arguments used are that certain patients are markedly tuberculous, that others have afterwards become so; and the thick and thin supporters of this theory assume

in every instance the presence of some hidden tuberculous focus, where the toxins which produce the disease are manufactured. Since patients do not die of Lupus erythematosus, it is not possible always to decide the question on the *post mortem* table, but the Vienna experience of several cases which have died from other diseases, and where on a careful search no tuberculosis could be found, is in my opinion sufficient proof that all cases of Lupus erythematosus are not due to tuberculosis; and if all are not, then the whole argument is fallacious.

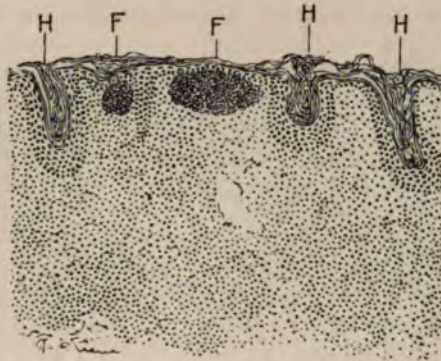


Fig. 46.—Lupus erythematosus. The corium is dropsical and packed with cells; masses of coagulated fibrin are shown at F, and at H are seen the horny plugs which are evident clinically on the under surface of the scales; stained with acid orcein and hæmatoxylin; x 50.

There are numerous facts of interest which may be noted by anyone observing a large number of cases. It is commonest in the colder countries, and generally improves during the warmer months. It is much more prevalent in the female than in the male sex, and in an enormous proportion of cases there is a history of chilblains; indeed, as already said, on the fingers the two conditions are often indistinguishable.

Organisms have been sought for repeatedly in vain, but that is not sufficient evidence that they do not exist. Inoculation experiments have hitherto been attended by negative results, and really the only definite fact universally admitted is the influence of cold as a predisposing factor. It is easy to surmise that it is a disease due to some toxin circulating in the blood, but very difficult to present any evidence in favour of the theory.

HISTOLOGY.—The examination of sections does not give much help with regard to the etiology. The appearances are shown in the two annexed figures. In *Fig. 46*, a low-power drawing of a section from a patch on the cheek, the epidermis is seen to be extraordinarily thin, the corium beneath is œdematous and packed with cells, and, if appropriately stained, bundles of coagulated fibrin are found here and there through it. According to Holder, the substance taking the stain is not fibrin, neither is it elastin, as Unna suggests, but a peculiar degeneration of the connective tissue, which he compares to coagulative necrosis. The horny layer is somewhat thickened, and

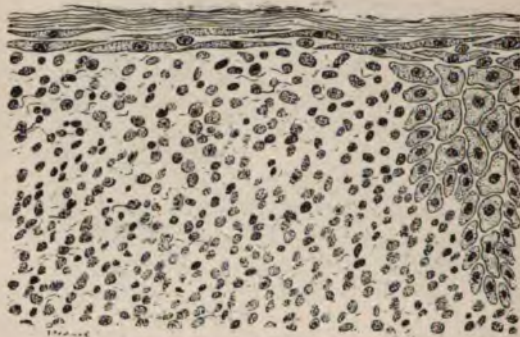


Fig. 47.—Lupus erythematosus, shows the exceedingly thin epidermis and the dropsical corium, packed with leucocytes and young connected tissue cells; $\times 350$.

the plugs which are evident on the under surface of removed scales are seen dipping downwards. In the high-power drawing (*Fig. 47*), some of these changes—the extraordinary thinness of the epidermic layer and the cells in the corium, which are of two kinds: leucocytes and proliferating connective tissue cells—are more easily seen. This section illustrates very well the comparison made by Unna, to a morass, the surface apparently firm, the deeper parts treacherous. Thrombosis has sometimes been noted in the capillaries.

DIAGNOSIS.—On the face, practically the only conditions with which it can be confused are tuberculosis and syphilis, both of which also leave scars behind them. From tuberculosis it is distinguished by its freedom from moisture, and the entire absence of the “apple-jelly” nodules which can always be detected in that disease. The period of its

appearance, too, aids in diagnosis, for lupus erythematosus rarely commences before early adult life, whereas lupus vulgaris is most common in children. Lupus erythematosus is also more frequently symmetrical, and the simultaneous affection of the ears or the scalp simplifies the diagnosis, for lupus vulgaris hardly ever attacks the scalp, and not often both ears.

From the late crusted syphilide it is distinguished by its history, its symmetry, and the difference in its response to anti-syphilitic treatment.

Lupus erythematosus of the scalp can hardly be confused with any other disease, by one familiar with it. Cases are sometimes diagnosed as ringworm, or alopecia areata; but the appearances, the course, and with regard to ringworm the absence of any fungus, are distinctive. On the fingers, as has already been said, the resemblance to chilblain is so great, that it is sometimes only either the development of scars, or the persistence during the warm months, that enables one to distinguish the disease.

TREATMENT.—A large variety of drugs are recommended by one or other observer for internal use. I cannot say that I have observed any marked benefit from any of them, but some of my patients have thought that they improved under quinine and phosphorous. M'Call Anderson prescribes iodide of starch; Bulkley, phosphorus; Payne, quinine; Crocker, salicin; while ichthyol, ergot, carbonate of ammonia, iodide of potash, and arsenic, each have their advocates.

White, of Boston, takes a very pessimistic view of the disease, and his words would suggest that any improvement following treatment is rather a matter of good luck than good guidance. His views are certainly not held in this country. From a considerable experience of the disease I can at least indicate the lines on which treatment may hopefully be directed. It is all-important not to use at the outset any treatment which may do the patient harm. The course of the disease is slow, and it is essential that the physician should have the full confidence of his patient. Therefore, it is of prime importance to avoid the application of grease, which almost always does harm to the erythematous form of the disease, and rarely does any good to the scaly one.

Since we are ignorant of the cause of the disease, our treatment is in the main symptomatic.

In the erythematous type our object is to soothe irritation, diminish hyperæmia, and dispel the exudation in the skin. The best application with which to begin treatment is calamine lotion (page 134). This is painted on twice or thrice daily. Simple dry powders such as talc, oxide of zinc, calamine, calomel, carbonate of magnesia, etc., may be applied. The swelling of the parts may also be treated by compression, which is most easily exercised by the application of collodion. This must be cautiously used, as it does not suit every case. Another method of treatment suitable in the erythematous form, is multiple scarification. Hundreds of shallow incisions are made in all directions across the patch, bleeding is encouraged for a time, and then some simple dusting powder is applied. Some recommend following up this treatment by the application of firm, continued pressure, which it is claimed greatly aids its effects.

The scaly form of the disease is most successfully attacked on different lines. It is perhaps not a bad plan to begin here also with calamine lotion, if only to avoid any risk of doing harm. Generally speaking, however, these cases will stand much more active treatment than their appearance would suggest; a case in which the simple application of zinc ointment would produce hyperæmia and aggravation, will benefit from a thorough scrubbing with soft soap. This method of treatment was originally recommended by Hebra, who advised that a piece of flannel be dipped in soap spirit and the part firmly scrubbed until all the scales were dissolved away. The occurrence of some hæmorrhage is no reason for stopping this treatment, which should be carried out once every twenty-four hours. I usually apply calamine lotion when the bleeding has ceased. I have also seen much benefit result from the application of a mixture of soft soap and metallic mercury, three parts of soap being rubbed up with one part of mercury. This is rubbed in and allowed to remain on the part. Cases may also be treated by the application of liquor potassæ. A pledget of wool is dipped in this and the part is scrubbed for about five minutes. It is then bathed with warm water, and calamine lotion is applied.

Having indicated the main lines of treatment in these two varieties, I may next refer to applications which are recommended for both. Resorcin is sometimes useful; so is salicylic acid, and even chrysarobin; but the drug

which has proved most useful in my hands is *oxidized pyrogallic acid*. This is prepared by exposing ordinary pyrogallic acid to the vapour of ammonia. Its chief disadvantage is its black colour. I order it in 1 or 2 per cent solution in acetone collodion. This is weaker than it is generally used, but it seems to me to be more efficacious than stronger solutions. Though applicable to both varieties of the disease, it is followed by more striking results in the erythematous type, possibly owing to the compression exercised by the collodion in which it is applied.

Other methods of treatment are recommended. One which has recently been a good deal referred to is Schutz's method, which consists in the application of Fowler's solution diluted with eight times its bulk of water. This is painted on twice daily, until a reaction sets in. When this has subsided, painting is recommenced, and according to Schutz the disease is usually cured in ten or eleven weeks. I can only say that I gave the treatment a thorough trial in half-a-dozen cases, and that they were not nearly well in that period. H. Hebra recommended the frequent application of absolute alcohol in which a little menthol has been dissolved. Caustics are recommended by some, but are of very doubtful value, and should never be used by the inexperienced. Sometimes the thermo-cautery may be used with advantage, but it should not be forgotten that this method of treatment usually leaves considerable scars, and that the disease not infrequently runs a natural course with almost invisible ones. Scraping is only resorted to by those whose knowledge does not enable them to distinguish between this disease and lupus vulgaris. It never does any good.

Opinions differ a good deal as to the effects of the X-rays in this disease. It is certain that they should only be used with great caution, and only by those who have considerable experience both with the rays and with the disease. Often a few minutes' exposure sets up a violent reaction, which if improperly treated may lead to an extension of the disease. On the other hand, this reaction is sometimes followed, at an interval, by great improvement, and in other cases improvement sets in without any marked evidence of irritation.

I have not had much success with Finsen's light treatment, which is said to have been useful in many cases; but recently a patient, an observant medical student, informed

me that his face was always better after he had been away fishing, if the weather had been bright and the sun had been reflected from the water on to his face. In pursuance of this suggestion I have treated several cases with benefit by the simple exposure to the arc light, the patient sitting about a foot away from the London Hospital lamp for half an hour at a time. I am glad to note that my friend Dr. Harrison, of Bristol, has confirmed the good effects of this treatment. Though I cannot endorse the roseate accounts of the success of high-frequency currents, I have seen some benefit follow their use in one or two cases.

In conclusion, I would again repeat that those not experienced in the treatment of the disease should be content with the mildest measures, under which the disease often improves as much, and nearly as often gets well, as under other remedies more potent both for good and evil.

SCLERODERMA.

(σκληρός—*hard* : and δέρμα—the skin.)

As the name indicates, this disease is characterized by a hardening of the skin. It appears in two forms, the diffuse and the circumscribed, the latter of which is also known as morphœa (from μορφή—a *shape or form*).

Diffuse Scleroderma may be universal, affecting the whole of the skin ; more frequently it is confined to a region, such as a whole arm, one side of the neck and head, etc. Sometimes the process is divided into two stages, a stage of infiltration or œdema, and one of atrophy. The former varies in its duration, being sometimes brief, sometimes prolonged.

On inspection there is often not much to be made out, though when the disease affects the face, the corpse-like immobility of the part is very striking. When the hand is applied, the part feels cold and rigid. The comparison is often made, and very appropriately, to a bladder tightly packed with lard. As the disease advances it seems to affect the deeper structures, and it is impossible to move the skin over them. In the later atrophic stage, contraction takes place, voluntary motion is interfered with, and the skin may be so tightly stretched over the bones as to ulcerate. If this occurs on the chest, the respiratory movements are restricted, and if on the face it may be almost impossible for the patient to eat. Sometimes the mucous membranes

are involved. The disease affects by preference the upper parts of the body, and is more common in women than in men.

PROGNOSIS.—Sometimes the disease terminates fatally, through interference with the necessary functions of the body, but many cases sooner or later clear up, the induration slowly disappearing. In the cases, however, where there has been much contraction, the effects of that contraction, in the shape of atrophy and fixation of joints, are sometimes not recovered from. Progress is apt to be interrupted, the patient is very subject to chills, and acute rheumatism is a frequent complication.

Circumscribed Scleroderma, or Morphœa, is regarded by many, and with considerable show of reason, as being a different disease from the diffuse. As the name indicates, it appears in a more limited fashion than the diffuse variety, the commonest form being a round or oval patch on the chest, aptly compared to a piece of hard leather let into the skin. It is of a white or old ivory colour, and is usually surrounded by a lilac-tinted zone of dilated capillaries.

This is, however, not the only form which it assumes. On the limbs, particularly in children, it tends to appear in band form, the bands being sometimes of considerable length. The old ivory tint is more pronounced in the band type, but the lilac border is not quite so prominent. Unna separates a form of morphœa, which he describes as "card-like" scleroderma. In it the spots are multiple, much smaller than those of typical morphœa, and somewhat depressed, and they have a bluish-white colour, looking, as he says, as if a small portion of a visiting-card had been let into the skin. In a case under the care of Allan Jamieson in the Royal Infirmary, the tiny bluish white patches could be numbered by the score.

After lasting for a longer or shorter period, the infiltration clears up and the skin returns to the normal.

ETIOLOGY.—The cause of the disease is not known. In the diffuse form, rheumatism and erysipelas are frequent incidents in the history. In the circumscribed form, apparently some slight irritation is often the starting point. Sheppard notes that the irritation of a collar stud produced it in one case; the frequent occurrence on the breast of females is attributed to irritation from the corset; and Limont, of Newcastle, observed a case where it occurred simultaneously on both garter regions.

When sections are examined there is found an increased growth of the connective tissue, the elements of which are closely packed together, sclerosed. The blood-vessels are very much narrowed, and this is usually attributed to endarteritis. Unna, however, maintains that there is no question of endarteritis, and holds that the narrowing is due simply to the growth and pressure of the connective tissue outside them.

DIAGNOSIS.—The only disease with which diffuse Scleroderma could be confused is *Sclerema neonatorum*, but as that disease is either evident at birth or appears immediately thereafter, and as Scleroderma does not attack very young children, the question can hardly arise. Circumscribed Scleroderma is most easily confused with *Leucoderma*, but the resemblance is only superficial; in leucoderma there is no hardening of the skin, the only change is in the colour. Morphœa, which used to be called the “keloid of Addison,” can hardly be confounded with true keloid, the “keloid of Alibert.”

TREATMENT.—Time is the great remedy in both forms of the disease, but measures for the promotion of the general health are very important. Medicines are of little value, but it has appeared to me that *thyroid substance* has favourably influenced more than one case. Salicylate of soda is recommended by some. Massage is of undoubted value. There is massage, and massage. The case from which *Plate XLII* was taken, improved very little under domestic rubbing, but very rapidly under the treatment of my friend Dr. J. H. A. Laing, who kindly took her under his care. Electricity in the form of electric baths, electrolysis, and static electricity, have all been tried. I have not seen much benefit from the application of ointments, whatever drug they contained, but Unna recommends the thorough application of an ointment of perchloride of mercury. One of our cases in the Royal Infirmary improved very markedly under X-rays.

Hebra claimed to have produced improvement in three cases by the injection of *thiosinamin*, 10 ℥ of a 15 per cent alcoholic solution being injected deeply into the inter-scapular region every second day. Lindemann has used arsenious acid hypodermically with benefit.

The case from which the illustration was taken was a girl of fifteen, and shows on the breast the round form, on the arms the band form, of the disease. The bands

PLATE XLII.



SCLERODERMA.



were rather more extensive than is here depicted, and by interfering with the mobility of the arms led to a certain amount of muscular atrophy. She had in addition one or two patches about the waist. The illustration shows the yellowish old-ivory colour (rather too deeply), the lilac border, and the shiny surface of the patches.

SCLEREMA NEONATORUM.

This is a rare disease, which is found in new-born infants, and is often confused with an almost equally rare condition, *Œdema neonatorum*. Both diseases are present at birth, or develop very shortly afterwards. Sclerema is always most marked on the back, œdema commences on the feet and spreads upwards. The skin in sclerema is intensely hard, and cannot be pinched up, and the body becomes so stiff and rigid that it can be lifted by one hand. In œdema the parts are cold, livid, and pit on pressure. Some have suggested that both diseases are due to solidification of the subcutaneous fat, but the evidence of this seems insufficient. In both the prognosis is very grave. Sclerema is very rarely recovered from, œdema occasionally.

The treatment consists in raising the body temperature, and in administering as much nourishment as can be absorbed.

LEPROSY.

(λέπρα—*leprosy*, from λεπρός—*scaly*).

Leprosy is a chronic disease due to the lepra bacillus. It appears in two forms, which are best distinguished as the *nodular* (tuberculous) and the *maculo-anæsthetic*. The division into nodular and anæsthetic, suggested by Danielssen and Boeck, is hardly strictly correct, because the nerves are affected in both forms, while macules are invariably present in the anæsthetic form. Mixed leprosy, too, is an unnecessary term. All cases of leprosy are mixed, and the one may pass into the other; indeed, the nodular almost invariably passes into the anæsthetic if the patient lives long enough.

Leprosy is found in many parts of the world, under such different circumstances that it is evident that climate can have little to do with its development. It may be said, speaking generally, that the more civilized a country,

the higher the standard of living of its inhabitants, the less likelihood is there of leprosy.

The bacilli, which were discovered by Hansen in 1884, are straight rods very closely resembling tubercle bacilli in appearance. They have the same irregular staining, clear spaces being left, and the same reaction to staining reagents, with the difference that the leprosy bacillus stains more readily in the cold than does the tubercle bacillus. Many attempts have been made to cultivate them, and a few claim to have done so successfully. No successful inoculation experiments on animals have been made, and Arning's famous case, where the disease was inoculated on a criminal, unfortunately loses some significance from the fact that the criminal had some relatives with the disease.

Heredity has long been a favourite theory in connection with leprosy. It is probable that there is not in leprosy even the quasi-heredity that there is in tuberculosis, namely, the inheritance of a constitution which is not so able to resist the attacks of the bacillus as it should be. Clearly the children of leprous parents have greater opportunities than those of healthy ones of acquiring the disease. Although it is difficult to prove, in connection with a disease where the incubation period may be as long as seven years, that leprosy is contagious, the fact has nevertheless been demonstrated to the satisfaction of most scientifically-minded people. The careful statistics of the leper department of the Norwegian Government clearly show that the number of new cases is directly proportional to the number of patients at large in a district.

Nodular Leprosy.*—In this form the lesions appear first upon the skin. As the name indicates, they take the form of nodes, varying in size. They are firm, usually semi-spherical in shape, are seated in the cutis, and the epidermis, being stretched over them, has a shiny surface. At first they have the colour of the skin, then they become reddish, and later, yellow or brown. Their favourite sites are the face, backs of the hands, and the extensor surfaces of the wrists. In countries where the inhabitants go barefoot, the dorsum of the feet and the lower part of the calves are often first attacked. The eyebrows are almost always markedly affected, and to this is due the *leonine*

* Plate XLIII is from a photograph given me by Dr. Armauer Hansen.

PLATE XLIII.



NODULAR LEPROSY.

PLATE XLIV.



MACULO-ANÆSTHETIC LEPROSY.

expression so associated with the disease. The nodules are sometimes isolated, with deep clefts between them; sometimes the infiltration is diffuse, and the eyebrows are thickened as a whole. The hairs usually drop out. The eyelids are frequently diseased, and the lobes of the ears are very often swollen with leprous infiltration. The mucous membranes of the mouth, nose, larynx, and pharynx are also involved; all the soft parts of the nose may be destroyed, but the bones are not affected. The infiltration in the larynx is often so great as to threaten suffocation and to require tracheotomy. The lymphatic glands draining the leprous region are always diseased, but they never suppurate. The nerves are affected later, the facial, radial, ulnar, median, and peroneal being always attacked, most markedly where they run superficially over the bones, where the increase in their size, due to the increase of connective tissue, enables them to be readily felt. The disease is also found in the testicle, the liver, and the spleen.

The course of the disease varies in different patients. Fresh outbreaks occur at intervals, due apparently to a shower of bacilli reaching the blood stream. In some, the eruptions are very few and far between; in others they recur very rapidly. The more frequent they are, the more vigorous is the growth of the individual nodules. Amyloid degeneration of the internal organs is very often the cause of death, and in leper hospitals many die of tuberculosis. The individual nodules are rarely absorbed, usually they burst and ulcerate, and if no fresh eruptions appear, the patient may recover. The average duration of life is eight to nine years after the outbreak of the disease.

When a section of a leproma (as the nodule is sometimes called) is properly stained and examined under the microscope, the bacilli are found in millions. The generally adopted view is that these bacilli are intracellular, the cells they occupy being usually connective tissue derivatives. Hansen showed me a section where they were inside a white blood corpuscle. Unna, on the other hand, maintains that the structures in which the bacilli lie have only the appearance of cells, and are really masses of mucoid material secreted by the bacilli lying free in the lymph spaces. All are agreed, however, with regard to the relationship of the bacilli to each other. They are closely packed together, often in parallel rows like little bundles of cigarettes. In scrapings from an incised nodule

the bacilli may be found in great numbers. Most authorities regard the apparent movements as molecular.

Maculo-anæsthetic Leprosy.*—This is a much more benign form of the disease than the other, and the prodromal stage, with debility, rheumatoid and neuralgic pains, sometimes lasts for years. The spots sometimes develop gradually and unnoticed, or they may appear suddenly with marked fever. They vary in shape, size, and depth of reddish brown colour, but have a general tendency to be rounded or ringed. They are most commonly situated on the back and limbs. Their supposed symmetry disappears on cross-examination, and the discovery of bacilli in them has finally disproved the theory that the eruption is vaso-motor. The adjacent lymphatic glands are always swollen, and have been shown to contain bacilli. The nerve affection which is so prominent in this variety of the disease is a leprous neuritis. At first it is accompanied by neuralgia and general hyperæsthesia, but as time goes on the acute symptoms settle down, fibrous tissue develops, and anæsthesia appears. As in the other form, the affection of the nerves is not equal; they are most markedly thickened over the bones. Trophic disturbances, such as the formation of bullæ, ulcers, etc., supervene. The nails share in the trophic changes, the secretion of sweat is diminished, and the hairs fall out. The muscles are not directly affected; their weakness is due to secondary atrophy. This is most marked on the hands, forearms, feet and legs, and on the face. The interosseous muscles atrophy, and the “*main en griffe*” is developed. The orbicularis oris and the orbicularis palpebrarum are paralysed, and the mouth and eye suffer from their disuse. The muscular sense is preserved, and patients can do needlework so long as any muscle remains. Many of the so-called trophic affections are indirectly due to the anæsthesia, and are the result of injuries which are not perceived by the patient, who may, for example, sit in front of the fire perfectly comfortable, while his trousers are burned through by the heat, or may lift a boiling kettle, unconscious of the fact that the heat is blistering his hand. Hansen has never succeeded in finding bacilli in these pemphigoid bullæ. The phalanges atrophy, and necrosis

* Plate XLIV is from a case under the care of Dr. Elder, in Leith Hospital. The patient was a sailor from the north of Scotland.

often occurs. It is interesting to note with what impunity operations for necrosis may be carried out without anæsthetics, and with complete success.

Cases of maculo-anæsthetic leprosy last for ten, twenty, or even thirty years, the neuritic symptoms becoming more and more prominent in unfavourable cases. Many cases in time suffer from nothing but anæsthesia; the leprosy has gone.

When a recent macule is examined under the microscope, the bacilli are found in considerable numbers. The older the macule the fewer are the bacilli, sometimes a very careful search being requisite to find any. The same is true of the affected nerves. In a *post-mortem* examination the bacilli are very rarely found, but Arning found them in a piece of ulnar nerve removed during life. The medullary fibres have largely disappeared; the nerve is practically transformed into fibrous tissue. The muscles contain no bacilli at any stage of the disease; the muscular affection must therefore be looked upon as a secondary one due to the neuritis. The spinal cord when examined shows the usual evidence of ascending degeneration.

What determines the variety in any given case is quite unknown. The proportions between the two vary remarkably, but according to Hansen, anæsthetic cases are more numerous where the climate is dry, an observation which would seem borne out by experience in the dry countries of the East.

DIAGNOSIS.—The diagnosis of advanced cases of nodular leprosy is very easy, and it is generally when the disease is fairly advanced that the patient seeks advice. In suspected cases, where the disease is still in an early stage, the first signs are to be sought in the infiltration of the eyebrows and the ears. If doubt still lingers, it can be set at rest by the demonstration of the bacilli. The most satisfactory method is to excise a small portion of a nodule and cut sections of it, but bacilli may sometimes be found in the fluid of a blister artificially induced.

The maculo-anæsthetic form is by no means so easy to diagnose, and cases are often overlooked when they turn up in countries where leprosy is not familiar. Many of the cases present a superficial resemblance to psoriasis (*Plate XLIV*), although the scarring present should prevent any mistake in diagnosis. The sensation of growth which is present in this disease, as in syphilis, is one means

of distinguishing the two ; the development of anæsthesia in the centre of the patch, the enlargement of the lymphatic glands draining the affected surfaces, the thickening of the ulnar and peroneal nerves, and the resistance to treatment, all help to establish the diagnosis. If there is still doubt, excision may be practised. In estimating the amount of loss of sensation, the test used must be a delicate one, for the anæsthesia is in the skin, and the sensation of deeper pressure is not lost.

PROGNOSIS.—Both forms *may* recover, all the leprous products disappearing. In nodular cases this is very exceptional, but in the maculo-anæsthetic it is quite common. In reference to Hansen's statement that "recovery is the almost invariable result in the maculo-anæsthetic form," it must be borne in mind that "recovery" refers to the leprosy, and that what is left is usually what Hansen describes as "only a miserable remnant of a human being."

Tonkin, however, in a recent communication, takes a much brighter view. He says: "In every endemic area many individuals will be found whose appearance makes it clear that they have been leprous." And he refers to "the bright eye, keen appetite, able digestion, capacity for enduring fatigue, and full enjoyment of the pleasures of life; making it equally evident that they have left the former disease behind them." He holds that we are as justified in regarding these cases as cured, as we are in using the same term in tuberculosis. Mr. Hutchinson agrees with Tonkin's more hopeful prognosis, and believes in recovery, provided strict abstinence from fish is practised.

TREATMENT.—The treatment of leprosy leaves much to be desired. The number of remedies recommended is large enough, but those which are really valuable are few. *Salicylate of soda* is the drug which Dannielssen believed to be of most value. He commenced with doses of 15 grains four times a day, and gradually increased it. *Chaulmoogra oil* has a considerable reputation. It is given internally, in doses of from ʒj three times a day, and applied externally, and many observers have noted improvement under its use. Arsenic is stated by Hansen to do more harm than good. If pushed, it may cause some diminution in size of the nodules, but this is merely a part of the general emaciation which its too free administration

causes, and when the patient recovers his condition after the stoppage of the arsenic, so do the nodules. *Ichthyol* is used both internally and externally by Unna, and is sometimes beneficial, and Crocker has had some remarkable results from the injection of *perchloride of mercury* gr. $\frac{1}{8}$ daily. Iodide of potassium appears to be always injurious; and, indeed, Danielssen used it as a test in cases which were apparently cured, for if any disease remained, the iodide of potassium seemed to bring it out.

Surgical methods are often required. Nerve stretching has apparently sometimes been successful in relieving the symptoms. When nodules occur in the sclerotic, and are advancing towards the pupil, the cornea should be divided in front of them; the wall of infiltration seems to prevent further advance.

Blood serum from other leprous patients has been injected—sometimes it is said with benefit, but until some susceptible animal has been found, a leprosy antitoxin is only a dream.

According to Hansen, the most important thing both for the patient and the community is to put the patient in as good circumstances as possible, and to use all measures of personal cleanliness; and the remarkable diminution in the number of lepers in Norway under his able and vigorous *regime* is the very best proof of the value of these means.

SECTION VI.

NEW GROWTHS.

These may be divided according as they are *malignant* or *benignant*, and sub-divided according as they are *epithelial* or *connective tissue* in origin.

MALIGNANT EPITHELIAL GROWTHS.

CARCINOMA.

Cancer of the skin appears in a variety of forms. It may be secondary to cancer of some other organ, when it may take the form either of multiple nodules or of "Cancer en cuirasse," a diffuse carcinomatous infiltration of the skin, which is occasionally primary. Under most circumstances these cutaneous manifestations are of only secondary importance.

The common primary cancers of the skin are two, the Epithelioma and the Rodent Ulcer.

Epithelioma.—This is fully dealt with in all text-books of surgery, and need only be briefly referred to here. Commencing as an abrasion or a small ulcer, near the junction with some mucous membrane, or, if elsewhere, usually due to the action of some definite irritant, *e.g.*, paraffin, it rapidly increases in size, attacks the deeper structures, infects the glands, and if not speedily dealt with, leads to the death of the patient. The epithelial cells go through their ordinary metamorphosis, and characteristic horny perles—cell nests—are developed here and there in the tumour.

Rodent Ulcer.—In many text-books of surgery this form of cancer is not sufficiently discussed; in particular, the early appearances of the disease are not described in sufficient detail to enable those unfamiliar with it to recognize it at this most important stage.

PLATE XLV.




RODENT ULCER.



The name is in many respects unfortunate. The disease has always lasted some time before it is either "rodent" or an "ulcer." It commences as a small nodule in the skin, the epidermis over which being stretched, acquires, as it always does under such conditions (*Lichen planus*, *Molluscum contagiosum*), a shiny, burnished, mother-of-pearl appearance.

While the general statement, that in the great majority of instances it appears on the face above the level of the mouth, and Jacob's, that it appears in the neighbourhood of the eye, are quite correct, probably still greater precision may be attained. In a now considerable experience of this disease, I have found that nearly 70 per cent of the cases are on one of two situations, the relative proportions being about 5 to 3. These are, the border of the nose just where it rises from the cheek, about the juncture of the upper and middle third, and the outer angle of the eye. Of the remaining 30 per cent of cases, probably 25 per cent occur on other parts of the face, and 5 per cent on other parts of the body. I have seen it on the scalp, on the forearm (twice), on the back, the hand, the pubis, and on the vulva; in each of these cases the diagnosis being confirmed by histological examination.

The nodule has a glistening, translucent appearance, most comparable to that of the horn of a light-coloured cow. At this stage it may long remain. When it commences to grow it does so from this centre, and as it extends at the periphery, the centre flattens down, and we have a little hollow surrounded by an elevated ridge, which may be compared to a lake surrounded on all sides by hills. The edges slowly advance, the centre is further depressed, and this may go on until an area as much as half an inch in diameter is enclosed by the walls. Usually before this size is reached the surface gives way, either wholly or in part, and an ulcer is at last developed. *Plate XLV* shows very distinctly this partial ulceration, and the rounded, elevated, advancing border of the growth. When the whole of the surface sloughs, and the ulcer is continuous right up to the border, we have the typical rodent ulcer and the typical "rolled" edge. The appearance on section resembles that of the figure 5, laid on its side with the tail removed , the stroke representing the ulcer and the loop the "rolled" edge. The ulcer has a finely granular surface, the discharge is comparatively

slight, and if carefully dressed it may temporarily skin over. If left alone the disease steadily progresses, attacking and destroying every structure which comes in its way, and ultimately leading to death from exhaustion, hæmorrhage, or meningitis.

Metastasis is very rare, but it is not unknown, and more than one case has to my knowledge developed cancer of some internal organ and terminated fatally.

When sections are examined, the difference in structure between Rodent and Epithelioma is at once evident. Whereas in Epithelioma the new growth is evidently continuous with the surface epithelium, in Rodent the *evident* connection is very slight. When it does develop from the surface epithelium, and I admit that in some cases it does, it very soon takes on an independent course, and has a prolonged duration, *below* the epidermis, before it once more comes to the surface as an ulcer. This is not the place to discuss the various and conflicting views as to the origin of the growth. Possibly all are partly right, and the disease may take its origin in the rete, the hair follicles, the sebaceous or coil glands. I believe, however, that Sir Benjamin Brodie was correct when he drew attention to its very frequent origin from moles. The structure of many of these growths closely resembles that of certain rodent ulcers, and although moles are usually described as consisting entirely of connective tissue elements, they are in fact almost all of epithelial origin (see p. 259).

The specific cells of rodent ulcer are small, closely packed together, and are arranged either in alveoli or in long, thin processes. While one or other of these architectural plans is mainly followed in any given case, both arrangements are often found. When in alveoli, they very often have a peculiar "whorled" arrangement, and although in the centre of large masses they may show degeneration (probably colloid), they do not, except in very exceptional instances,* undergo any cornification and form cell nests.

Fig. 48 is a section of a portion of the growth shown in *Plate XLV*, and illustrates very well the appearance of a typical Rodent Ulcer.

* Taking together my own and other specimens which I have examined, I must have seen over 250, and I have only twice seen cell nests.

DIAGNOSIS.—If the case is seen in the early stage, before any central depression has formed, it is difficult to distinguish it from an unpigmented mole. If, however, the growth is increasing in size—and the patient is hardly likely to seek advice unless it is—it is well to remove it on chance. When the central flattening has occurred, I do not know of any other condition with which it can be confounded. The reason it is not more often diagnosed at this stage, is that the term ulcer is so unfortunately associated with the disease.



Fig. 48.—Section from the case shown in Plate XLV. The section is taken from a part which was not ulcerated, and shows the typical collection of cells, some of which have a 'whorled' arrangement; $\times 50$.

When ulceration has occurred, it may be confounded with syphilis and tuberculosis. From the former it should be easily separated. A syphilitic ulcer will reach a size in weeks, which it will take a rodent years to attain. Itching, which is usually strikingly absent in all syphilitic manifestations, is generally the only complaint of a patient with rodent ulcer. Pain is remarkable by its absence even in advanced cases. While both ulcers may skin over under simple cleanliness, the syphilitic one will remain scarred, while the disease spreads at the margin; the rodent scar invariably breaks down again. Too much stress should not be laid on the effects of treatment. The late ulcerating syphilides are by no means too ready in their response to it, and the fact that a doubtful ulcer does not at once commence to improve under iodides, does not prove its non-specific character.

From tuberculosis the diagnosis is much more difficult, and I have to confess to having on two occasions removed tuberculous ulcers under the belief that they were rodent. A great deal too much has been made of the age at which the diseases respectively attack the skin, and the statements that Lupus is a disease of youth, and Rodent one of age, are neither of them to be taken as absolutely correct. The two cases above referred to were aged, one twenty-five and the other fifty-five, and in both the ulceration had a duration of less than two years. Rodent usually commences about the age of forty. The statistics which show a greater age, usually deal with the age of the patient at the time of operation, and ignore the fact that the disease may have lasted ten, fifteen, or more years. Lupus, too, is by no means so exclusively a disease of youth as is so dogmatically laid down by the Vienna school. Quite 10 per cent of all cases develop in adult life.

The points of differentiation on which stress is to be laid are: (1) The history. If the word of the patient can be depended on, this is of considerable value, for the translucent prominent nodule of the early Rodent differs very much from the reddish brown, flat lesion of Lupus; (2) Direct observation. It may be that the Lupus has taken on the fibroid type (see "Lupus," p. 211), and is elevated above the level of the skin; it may feel hard, but it always lacks the abrupt, rounded, elevated border, which is so characteristic of Rodent. In ordinary cases it is almost always possible to demonstrate some of the brownish-yellow nodules which are essential to the absolute diagnosis of Lupus. If it is impossible to decide the matter, it is best to err on the safe side and treat the disease as if it were Rodent.

PROGNOSIS.—Untreated cases go on steadily from bad to worse, and invariably prove fatal if the patient does not in the meantime die from some other disease. If diagnosed early, and properly treated, there is no tendency to recurrence, and it is in order to emphasize the importance of early diagnosis and thorough removal, that I have given to this disease an amount of space which may to some appear disproportionate to its frequency.

TREATMENT.—By far the best treatment is complete excision by the knife. In the early cases, where the growth is comparatively limited in size, and where the tissues are loose, so that the gap left after removal is easily closed,

no other treatment should be considered. But in more extensive cases, where the resulting disfigurement of an operation would be great, other methods merit consideration.

Treatment by the application of caustics has fallen into some disrepute, chiefly because of the ignorance of those who used them. There is no doubt that if applied under experienced direction, many cases of considerable extent may be treated as satisfactorily with regard to cure, and more satisfactorily with regard to appearance, by caustics than by the knife.

In the first place suitable caustics must be used. Nitrate of silver, and other playthings of that nature, always do harm, merely stimulating the growth to increased activity. The caustics which may be used safely, are *salicylic acid*, *pyrogallol*, and *resorcin*, and—probably most satisfactory of all—*arsenious acid*. All these drugs have what has already been referred to under Lupus as a *selective action*, *i.e.*, they act more destructively upon the diseased cells (in this case the cancerous ones), than on the healthy tissue around. The formula which I use is:

R.	Acid. Arsenios.	
	Acaciæ pulv.	aa ʒij
	Orthoform	ʒss

This is made into a paste with a little water, and if the surface be ulcerated, it is applied directly to it. If the surface be not ulcerated, it should be rawed either by the curette, or by the application of a strong solution of caustic potash, and in any case it is a good custom to treat the edges, which rarely are ulcerated, in this way. In twenty-four hours the part has swollen up, and the pain experienced is very severe, so severe that it is often necessary to give the patient morphine. If enough destruction has been caused at the end of that period, a poultice may be applied to hasten the separation of the slough. But if one has reason to suppose that the carcinoma extends for any distance beyond the actual ulcerated surface, then a fresh application of the paste should be made. I cannot say that I have ever seen any harm result from a too prolonged use of the paste, while I have repeatedly seen it from too brief use. Under poulticing the slough separates and comes away, in a week or ten days, leaving behind it a healthy granulating surface, which has to be watched for any trace of disease persisting. In many cases one

course of this treatment is successful; it is a want of courage in the application which is responsible for the disrepute into which this caustic method has fallen.

I can also speak favourably of the method, much more in vogue in America than in this country, of curetting. The superficial rodent can always be removed in this way, but unfortunately one cannot always identify it. I scrape my cases vigorously with the sharp spoon, and then follow Jamieson's plan of touching the raw surface with chromic acid. I have some hesitation in mentioning these methods, for if not thoroughly carried out they may do much harm.

In the X-rays we have obtained a treatment for Rodent ulcer which probably surpasses all others. They are applicable to all forms of the disease, but are especially of value in those widespread cases, which have spread beyond the reach of the surgeon's knife. Indeed, I prefer the other methods in the small non-ulcerated cases. In one such I had to stop the application on account of the development of the keratotic growths which are the first stage in X-ray cancer. In the widespread ulcerated and excavated cases, exposure to the rays results, first in a drying up of the discharge, and an increased feeling of comfort. In the course of a week or ten days it is quite apparent that epithelium is growing from the edge over the surface of the ulcer. Not only this, but the excavated cavity seems to fill up from the bottom, and if the treatment is persevered in, the ultimate result is a smooth flat scar, which no one unfamiliar with the method would have believed to be possible.

XERODERMA PIGMENTOSUM (KAPOSI'S DISEASE).

*Atrophoderma pigmentosum, Melanosis lenticularis
progressiva.*

(ξηρός—dry).

This is one of the rarer diseases of the skin, and none of its numerous names are altogether satisfactory. It is one of the family diseases,* and usually affects all the members of one sex. The first evidence of it is a dry

* I came across a very interesting family history in connection with one of my cases. The father and mother each had a daughter by previous unions. These children were unaffected, but the two daughters of their marriage were both affected.

roughness of the skin of the face and hands, at the period when the child first begins to be about in the open air. About the age of three or four, a series of little pigmented spots, usually rather darker than freckles, appear on the exposed parts (face, neck, and hands). This freckling, though it does not disappear in winter, is very much worse during summer. Then the skin begins to shrink, little areas become white and atrophic, and for this reason Crocker prefers the name *Atrophoderma pigmentosum*. The shrinking of the skin draws down the eyelids, giving the child a peculiar woe-begone expression. There next develop teleangiectases, or dilatations of the capillary vessels, which add their share to the variegated appearance of the patient's face. The next symptom consists in the development of little mole-like or warty growths, which, if left alone, rapidly take on a malignant action, destroy all the tissues in the neighbourhood, and lead to a fatal result. This result is due to the exhaustion produced by local destruction; the tumours do not metastatize.

The true nature of this disease is unknown. Exposure to the sun has very evidently an important bearing on its development, but beyond that we know nothing. The tumours are, according to Unna, merely the development of hitherto unnoticed or unnoticeable moles (*q.v.*), and if each of them is removed as soon as it is observed, the progress of the case is very much delayed. It would seem as if the efforts of the skin to protect the deeper tissues from the sunlight were ill-directed, and instead of the ordinary bronzing of the face occurring, the pigmentation was concentrated in small areas.

PROGNOSIS AND TREATMENT.—The prognosis is very grave, and the duration of the disease depends entirely on the care which is taken of the patient. If he is protected from the sun by wearing a brown veil and gloves, and if the little tumours are removed as soon as they are observed, he may live for many years, though the disease usually terminates fatally.

Herxheimer and Hildebrand have recently published an account of four cases of this disease, with an enquiry as to the after-history of several of the hundred cases now on record. Their findings suggest that if the period of adolescence can be tided over, the progress of the disease may be stayed, and in this connection it is interesting to recall the fact that hydroa puerorum, another disease

dependent on the sun's rays, usually disappears at that period. One of Allan Jamieson's cases has received very marked benefit from exposure to the X-rays. The warts always disappear, the pigmentation diminishes, and the child is certainly no worse than she was three years ago.

PAGET'S DISEASE OF THE NIPPLE.

This is a cancerous inflammation* of the nipple and areola, which appears in middle-aged women. The surface is dark red, granular, and moist. Some itching is felt, sometimes alternating with pain, which latter is often very severe. Sometimes crusts develop, and conceal the red granular surface. The disease may last in this form for years, but ultimately the carcinomatous process spreads to the breast itself.

DIAGNOSIS.—This is, of course, of the utmost importance, for on early diagnosis often depends the patient's life. The only disease with which it can be confused is eczema. Eczema of the nipple is practically confined to women at the nursing period of life, and does not often extend continuously beyond the areola. The apparent enlargement of this is therefore a suspicious sign. Though there is often some degree of infiltration of the skin in eczema, there is in this disease the peculiar hardness which is common to all malignant epithelial growths of the skin. M'Call Anderson compares it to the feeling of a penny felt through a piece of cloth. Eczema is associated with more itching than is Paget's disease, and probably fissures are more common in the former. At the same time it must be admitted that the diagnosis is often very difficult, and in a doubtful case occurring in a woman over fifty, it is probably safest to assume that the more serious disease is present.

Cases have been recorded where a similar affection has appeared on other parts of the body.

TREATMENT.—Treatment consists in the removal of the entire breast. Partial operations are rarely satisfactory.

MELANOTIC CARCINOMA.

Most melanotic growths are carcinomatous. Their structure is difficult to investigate on account of the deep

* Unna regards Paget's disease as an inflammation, not in itself cancerous, which, however, prepares the ground for cancer so successfully that in most cases it develops.

pigmentation ; but when this is removed by appropriate means, their carcinomatous structure can generally easily be recognized. Melanotic cancer* begins in a mole which has previously existed in a quiescent state. Some unknown irritant excites rapid growth, and the disease spreads to other parts of the skin, to the glands, and to the internal organs. The fingers or toes are frequently the seat of an almost unnoticed mole, but it is often difficult to discover the primary cause of a profuse eruption of melanotic nodules. For the dermatologist the interest lies in the early stage, when the mole first shows signs of irritation, for it is then that the question of treatment comes up for consideration. It cannot be too definitely laid down, that there is only one treatment for an irritated pigmented mole, namely, immediate free excision. If the patient objects to this, the mole is far better left alone than treated with any irritating caustic. Too often, even the promptest interference is too late. It is, indeed, impossible to over-estimate the gravity of the prognosis of melanotic cancer. When a number of melanotic nodules have developed, it is as well to leave the case alone. Operative interference of a partial kind generally aggravates and spreads the disease.

I always advise the removal of a pigmented mole in any situation exposed to irritation. Removal can do no harm, and may avert trouble.

MALIGNANT CONNECTIVE TISSUE GROWTHS.

SARCOMA.

Both the spindle- and round-celled Sarcomata may occur in the skin, where they may either be primary or secondary. As already stated, most melanotic growths are carcinomatous, though one is not prepared altogether to deny that a sarcoma may be pigmented.

Unless promptly treated, the prognosis is of course extremely bad. The sarcoma should be excised whenever the nature of the tumour is recognized. When it has become very widespread, and is beyond the reach of surgical treatment, the subcutaneous injection of *arsenic*

* I do not here refer to the melanotic growths of the eye-ball, though I believe that they too correspond more with the carcinomata than with the sarcomata.

is sometimes useful. The injections need not be made directly into the tumours. The drug may also be given by the mouth, though it seems to act less beneficially than when injected. X-rays have been used with marked benefit in some cases.

BENIGNANT EPITHELIAL GROWTHS.

VERRUCA.

(*Verruca—a wart*).

Warts are little tumours composed mainly of epithelium, each division of which contains a connective tissue core. They appear on any part of the surface, and are, in all likelihood, due to some contagion, the nature of which has however, not yet been discovered. The appearance of the ordinary wart is so familiar that it is unnecessary to describe it. The plane or flat wart is not so familiar. It is not uncommon on the hands, and consists simply of a thickening of the epithelium, which does not divide into processes, and consequently does not project in a cauliflower manner over the surface.

The simplest way of getting rid of warts is to snip them off with scissors. If this plan be adopted all the lesions should be treated at a sitting, and if the part be frozen, the pain is comparatively trifling. If this method be objected to, salicylic collodion (a drachm to the ounce) may be applied daily. This gradually destroys the redundant epithelium. Acetic or lactic acid, and more powerful caustics, are recommended by some. They distribute the pain over a greater period of time, and are not nearly so satisfactory as the scissors method. In those warts which occur in the genital region, the application of a simple drying powder, with perhaps 5 per cent of salicylic acid in it, often suffices. Warts there owe their size to the heat and the moisture of the parts, and when these are dispelled they shrivel up.

The effect of the X-rays on warts is most remarkable. I have seen crops of two or three hundred flat warts totally disappear after a series of exposure to the rays amounting altogether to about an hour. I have no hesitation in saying that the rays are the best method of treatment for this multiple variety.

MOLLUSCUM CONTAGIOSUM.

This is a somewhat rare disease, though it occurs more often than it is diagnosed, the little tumours being often mistaken for ordinary warts. The usual history of a case is that a small "pimple" appears on the skin. Of this little notice is taken. By and by it swells, and gets red and irritable. Some soothing application is made, under which the signs of irritation disappear. Some weeks afterwards a group of little tumours appear in the neighbourhood. These vary greatly in size. They may be no larger than a small pin's head; they grow as large as a hazel nut. At

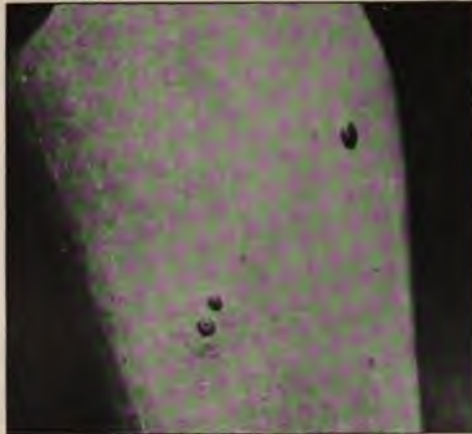


Fig. 49.—Molluscum contagiosum on the Leg.

first they are of a yellowish colour, their surface is shining owing to the stretching of the epithelium, and they contain in their centre a dimple or a projection which gives to them a very characteristic appearance (Fig. 49).

When one of the little growths is examined under the microscope, the condition shown in Fig. 50 is seen. The appearance of a central section recalls that of a sebaceous gland, that is to say, the epithelium is arranged in lobules, in the centre of which, as in the sebaceous gland, a change has taken place. The change, however, is different, and instead of the fatty *débris* found in the sebaceous glands,

we have here a number of hard oval structures which are known as "molluscum bodies." These are the result of hyalin degeneration of the epithelial cells, and are not, as was at one time supposed, parasites. The explanation of the lobulated character of the growths is purely physical and is referred to on page 5. The actual cause of the disease is still unknown. The growths are undoubtedly contagious, but no one has as yet been able to find the cause. It seems to be most commonly contracted in a Turkish or some other form of public bath. The contagion is one that takes a long time to show its results. Pick found that six or more weeks elapsed before any lesion appeared at the

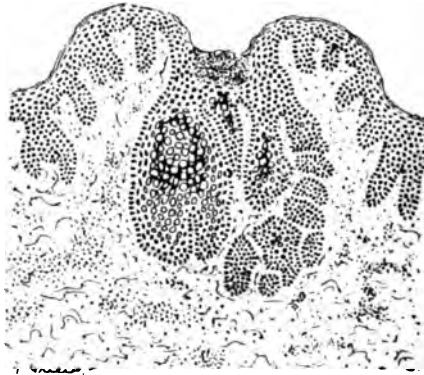


Fig. 50.—Molluscum Contagiosum. Central section shows lobulated character, "molluscum bodies" in the centres of the lobules, and, in this case, a central dimple. Sometimes this is replaced by a projection; $\times 50$.

seat of inoculation. The disease also occurs in the lower animals, and Shattuck has drawn attention to its occurrence in sparrows, pheasants, domestic fowls, and pigeons. If left alone, it will continue to spread, indeed there is no reason why it should not go on for ever.

TREATMENT.—The best treatment is to snip off each growth with scissors. This is no more painful than slitting each one open and letting out the contents, and it is infinitely more certain. If the spot is inflamed, that is if it has become septic, it should be dressed with mild antiseptics until the irritation disappears.

MOLES (Nævi).

Moles or nævi, for the word nævus embraces all manner of growths, and should not be restricted to the angiomata, are growths of the skin of congenital origin. They may not be visible at the time of birth, but in all probability their foundations are laid, though they may never be used for building on. Moles are the best example of Cohnheim's theory of aberrant cells.

They are distinguished from warts by the absence of any papillary marking on their surface. The surface may be creased and grooved, but it has not the cauliflower appearance of a wart. The explanation of this is found on examining a section, when the new growth is found to lie *beneath* the surface epithelium. This new growth consists of cells, which being small in size, and indeterminate in character, have usually been regarded as of connective tissue origin. In the moles of adults it is exceedingly difficult to determine their character, but if moles from young children are examined, it is generally easy to make out their origin from the surface epithelium. Rounded or pyriform areas of cells may be seen, still in connection with the rete, dropping down into the corium, where little rounded collections evidently derived from the same source may be seen. The fact that when these little growths take on a malignant action and spread, they follow the course of carcinomata, is a strong clinical argument in favour of their epithelial origin. Probably all moles are to some extent pigmented. In most of them the pigment is limited to superficial layers, and it is exceptional to find the pigment throughout the entire new growth of cells.

The deeply pigmented moles may give rise to melanotic cancers, while the non-pigmented ones, as Brodie long ago pointed out, are not infrequently the starting point of rodent cancer of the skin. If moles are seated where they are exposed to irritation, or in a locality (such as the side of the nose) where they are liable to take on malignant action, they should be removed, even although they show no signs of activity. If caustics are to be used they must be very thoroughly applied, and must be of a powerfully destructive nature, such as arsenious acid, see page 251. Electrolysis may be used to destroy small growths, but its application must be thorough. If either of these methods are too tenderly used, harm and not good will result. The knife remains the best and safest weapon.

BENIGNANT CONNECTIVE TISSUE GROWTHS.

FIBROMA.

This may be single, when it presents no special peculiarities. When multiple, the condition is more correctly described as neuro-fibromatosis, and is usually known as *Molluscum fibrosum*. The sufferers present a very remarkable appearance. Plate XLVI is from a photograph taken by my friend, Dr. Rorie, of Cardenden, of a Hindu, who was supposed to owe the disease to a change of his religious opinions. It is an admirable example of a well-marked case.

When first noted, each tumour is evident as a little hard nodule, feeling, beneath the loose skin, like a pea or a bean covered with thick velvet. The lump increases in size, and gradually projects above the surface, while the skin stretches over it. Sometimes the tumours undergo a species of atrophy, and a little empty bag of skin is left. Cases so severe as that shown in the Plate are fortunately rare, but instances where there are a dozen or two tumours are not infrequent. They give rise to no symptoms, except those of inconvenience on account of their size and position.

When the tumours are examined under the microscope, they are found to consist of fibrous tissue, dense or loose according to the consistence of the tumour. "They are of the nature of soft fibromata related to the terminal filaments of the cutaneous nerves, and they resemble very closely the structure of the plexiform neuro-fibroma"; v. Recklinghausen. Alexis Thomson, whose masterly monograph should be consulted for further information, says the tumour tissue is either a succulent, spongy, feebly fibrillated tissue, rich in cells and blood-vessels, or a tougher more fibrous tissue, with the fibres arranged in bundles. There is neither any new formation, nor any degeneration of the nerve fibres concerned.

DIAGNOSIS.—This presents no difficulty. There is practically no disease with which it can be confused; only mycosis fungoides has a very distant resemblance to it. The tumours in this disease lead to no discolouration, and do not ulcerate except from accidental injury.

TREATMENT.—Nothing is of any avail but removal; and precautions with regard to hæmorrhage, which is sometimes considerable, should be taken. Of course in cases of the severity shown in the Plate, only those growths which are seriously inconvenient are removed.

PLATE XLVI.



MOLLUSCUM FIBROSUM.

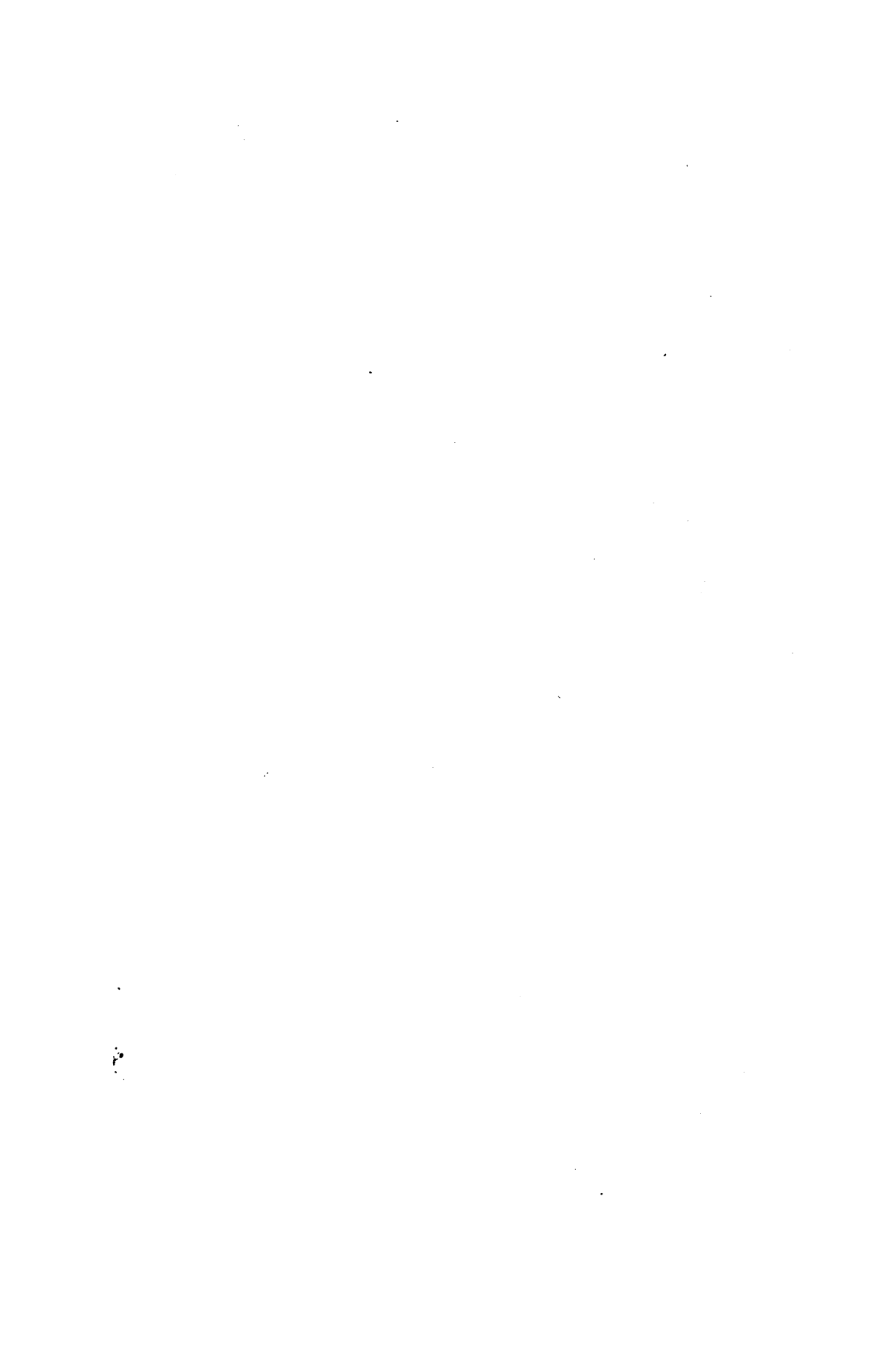


PLATE XLVII.



KELOID.

KELOID,(χηλῆ—*a claw*.)

While there is no great difference in their anatomy, there are sufficient clinical differences to justify a distinction between keloid proper and the hypertrophic scar. True keloid is a very characteristic growth, and is admirably represented in *Plate XLVII*, for which I am indebted to my friend, Dr. Limont, of Newcastle. Probably all keloids arise in scars, though these may be of such a minute nature as to have altogether escaped the patient's attention. In this case, as in many others which have been observed, the keloid commenced in a scar produced by the application of a mustard poultice. On the chest and back, the commonest situations of keloid, it probably takes its origin in the scars of some bygone acne. The name is well fitted to the appearance. The tumour is longer in one direction than in the other, and usually sends out at its long ends *claw-like* processes. At the sides the margins are usually more abrupt, and the number of processes less than shown in the illustration. The colour is a bright pink, and the surface is shiny, through stretching of the epidermis, beneath which a few dilated vessels may be seen. Once developed, keloid tends, with occasional intervals of rest, to steady increase. In this it differs very markedly from the hypertrophic scar, which, though it hypertrophies, does not usually spread beyond its original limits. The hypertrophic scar is frequently seen in connection with operation wounds in tuberculous cases, and is quite commonly the result of scraping lupus. Keloid is most often single, but two or three are not infrequent, and cases are on record where the tumours have been numbered by hundreds. Such cases usually follow eruptions of boils, small-pox, etc.

When a section of keloid is examined under the microscope, it is found to consist of very dense fibrous tissue; all the epidermic appendages have vanished, and the rete runs in a thin layer over the surface. The fibrous tissue is sometimes fairly cellular if the growth be active, and keloid may be regarded as a step on the ladder between the simple fibroma and the recurrent fibroid of Paget.

In favourable cases the part may flatten down and the tumour disappear, but as a rule the duration is very prolonged, cases having been recorded where forty or fifty years' existence had been noted. The hypertrophic scar

shows much more tendency to disappear than does the true keloid.

TREATMENT.—Excision, which would appear to be urgently called for, is worse than useless. It seems to be a matter of indifference how wide the incision goes, the tumour always returns in an aggravated form in the scar. The same is true in a modified degree of the hypertrophic scar. Other means have consequently been attempted, and electrolysis, multiple scarification, and pressure, have all been used, sometimes with a certain amount of success. *Thiosinamin*, which was introduced by Hans Hebra as a remedy for lupus, has on several occasions been used with benefit in keloid. It may be injected into the growth, or applied over it in the form of a plaster, as prepared by Beiersdorf and recommended by Unna. The X-rays are undoubtedly useful in cases of hypertrophic scar, and I have to retract the opinion expressed in my last edition, and admit their merits in true keloid also. A pretty long series of exposures is generally necessary, and the signs of improvement are often slow in appearing.

NEUROMA.

(*νεῦρον*—a nerve.)

True neuromata of the skin are unknown. Alexis Thomson says that all the authenticated cases of true Neuroma were connected with the sympathetic nervous system. "Painful subcutaneous tubercles" are subcutaneous growths which appear particularly on the forearms, hands, and legs, and are generally exceedingly painful, at least on pressure. They are circumscribed tumours of the nerves, and may be fibromatous, myxomatous, lipomatous, angiomatous, or lymphangiomatous. They arise from the sheath of some nerve trunk, and are met with in the course of nerves, and not at their peripheral terminations. The pain is due to stretching or compression of the nerve fibres. Excision is the only means of treatment.

ANGIOMA.

There are several forms of angioma which occur in the skin. *Nævus araneus*, or "spider" *nævus*, is most common on the face, and consists in a dilatation of the small vessels, which assume a form somewhat resembling a spider's web, a large vessel in the centre taking the place of the spider.

It may increase to a considerable size. Then there are the small, angry-red angiomas, which are very common upon the chest and back, but may occur in other situations also.

Nævus flammeus is the familiar port-wine stain, most frequently observed on the face, less often on other parts of the body. According to Unna, it is due to the intermittent pressure exercised on the foetus during intra-uterine life by the bones of the maternal pelvis.

TREATMENT.—Spider nævus is very easily dealt with. Electrolysis of the central point usually cures it permanently in one or two sittings. The small rounded nævi are pretty easily disposed of by the same means, and if that method is not convenient, either of them may be treated by the application, on a very fine point, of some caustic such as nitric acid, the acid nitrate of mercury, carbolic acid, or the ethylate of sodium.

Port-wine stains are not very often improved by treatment. It is, no doubt, possible to produce improvement by electrolysis, but the process is very prolonged, and the results are too uncertain to make it a method strongly to be recommended. Unna has tried treating these cases with prolonged pressure, but I do not know that his results were very satisfactory. Jutassy reports the complete disappearance of a port-wine mark after a series of exposures to the X-rays. Levack, of Aberdeen, has recently published three cases where extensive port wine stains were successfully dealt with. He intentionally produced a considerable reaction, which took several weeks to heal.

Subcutaneous nævi come under the care and treatment of the surgeon.

LYMPHANGIOMA.

This is a tumour of the lymphatic vessels, which may appear on any part of the skin. It is unnecessary here to discuss the question as to whether Lymphangioma or lymphangiectasis is the more suitable term for individual cases. When once present, it is of little practical importance whether the lymphatics are new-formed, or merely existing ones dilated. The little growths appear in irregular groups, and look like vesicles; in fact cases are frequently mistaken for zoster, from which, of course, they are easily distinguished by their persistence. The vesicles are deep and have thick walls, and when pricked, discharge, and continue

to discharge, a colourless fluid. Often there is only one patch, whose appearance suggests that of a white raspberry opened out and inserted in the skin. Once fully developed they show no great tendency to spread, or if they do, spread very, very slowly.

TREATMENT.—The vesicles may either be dried up by electrolysis, which requires repetition several times, or the whole patch may be removed by the knife. Incision must go pretty wide of the disease, otherwise it tends to recur.

ADENOMA SEBACEUM.

Many cases of the disease to which this term is generally applied have certainly been lymphangiomata. In one case which has been many years under my care I have, more than once, excised the lesions, and have always found them of this structure, though in other cases tumour formation in connection with the sebaceous glands has been noted. The disease occurs most frequently on the faces of children whose mental development is below par.* Very often there is a history of fits in infancy, and the development of the disease has been attributed by some to the large doses of bromide of potassium administered. The little tumours are whitish yellow in colour, cover the whole face, though they are most numerous on the nose, cheeks, and chin, and have between them small teleangiectases, which give the face a mottled appearance. Now and then one enlarges to an inconvenient size, but as a rule the disease is troublesome only on account of the disfigurement. As the child gets older, the disease tends to moderate if not to disappear, but this takes long, and a great deal can be done by treatment. Electrolysis was not very successful in my case, and I had much better results from destroying the larger lesions with the fine point of Unna's micro-brenner, while, where the lesions were smaller, I ironed the surface with an ordinary Pacquelin cautery at a dull heat.

MYOMA.

The leiomyomata are the only variety that occurs in the skin. They take origin from the cutaneous muscles, and may develop on any part of the skin, but are most common on the arms of women. They are firm, of a reddish colour, and usually excessively painful. Excision is the only remedy.

* The disease is fairly common in Imbecile Institutions.

CHONDROMA, OSTEOMA.

Both these tumours may occur in the skin, but so rarely as to make them merely curiosities.

CLAYUS.

(*Clavus*—a nail.)

Corns are placed by Unna among the tumours, and there seems to be no particular reason why the horny cells should not have as much right to form tumours as the rest of those of the body. The corn is a dense thickening of the horny layer, usually conical in shape, which may form at any part exposed to intermittent pressure. Constant* pressure causes atrophy, intermittent pressure encourages growth. Corns are too familiar to require any description, and only very brief remarks with regard to treatment are necessary. The best application is salicylic acid, which may be applied dissolved in collodion, to which it is customary to add some cannabis indica to diminish the pain is :—

R	Salicylic Acid	℥ss
	Tinct. Cannabis Indica	℥ xx
	Collodion	℥ss

This is painted on every night, and in about a week the dead epidermis separates. The application should be renewed again and again until the surface is quite level. I am convinced this method would be more popular if it were not for the common opinion that one course of the application is enough. It should be renewed at least four times. Sometimes salicylic creosote plaster is more convenient, and it is more rapidly efficacious than the collodion. Treatment is, however, of little avail if the original cause is still in existence. The patient must wear loose-fitting foot gear, and, preferably, woollen stockings.

ANGIOKERATOMA.

(*ἀγγεῖον*—a vessel ; *κέρας*—a horn.)

This is a mixed form of tumour which may be roughly said to be a combination of an angioma and a corn. It occurs in groups, particularly on the hands, feet, and ears, more rarely on the limbs, of those who are subject to chilblains or to “dead fingers.” The appearance varies according as the angioma or the keratoma predominates.

In the early stages the former is more apt to prevail, and there are a number of little, hard, red, lenticular spots; as the disease advances the horny layer thickens, and sometimes greyish, horny-looking patches obscure the reddish colour beneath. They bleed very freely when injured.

TREATMENT.—The best immediate treatment of the lesion is electrolysis, but the real treatment consists in taking such steps as will improve the circulation, and prevent the recurrence of fresh lesions in the following winter (see "Chilblains").

CORNU.

A cutaneous horn is rarely observed now-a-days. Most cases probably had their origin in a broken-down dermoid or an atheroma, and as such neglected cases now rarely occur, cutaneous horns are pretty well limited to museums. The only treatment for them is, of course, removal.

XANTHOMA (*Xanthelasma*).

(*ξανθός*—yellow.)

As the name indicates, this growth is characterized by its yellow colour. The cases may be divided either into the plain and tuberos forms, or into *Xanthoma palpebrarum* and *Xanthoma multiplex*.

Xanthoma of the Eyelids is an affection which commences in middle life, as a minute yellow spot. This extends into a patch varying in size, which sometimes spreads so as to form a complete ring round the eye. It is slightly raised above the level of the skin, and has a wrinkled appearance. The usual comparison to a piece of chamois leather let into the skin is a very appropriate one. Growth is very slow, but there is no tendency to absorption. The yellow colour is due to the presence of fat, and Xanthoma is usually looked upon as a connective tissue growth in which the cells have undergone fatty degeneration. According to Unna this is incorrect. He maintains that the fat in *Xanthoma palpebrarum* is situated in the lymph spaces, and is in reality a sort of fatty infiltration of the orbicularis muscle, comparable to the fatty deposits in some senile hearts. The giant cells which are found in the growth are, he says, sections of dilated lymphatics, and the ring of nuclei is composed of those in the walls of the vessels. There is no pain, and little inconvenience caused by the growth, and excision is the only treatment which can be

PLATE XLVIII.



XANTHOMA DIABETICORUM.

surely depended upon, though cases have occasionally been successfully removed by electrolysis. My friend, Jas. C. Johnston, tells me he has used with success McGuire's plan of applying trichloracetic acid. He brushes the part with the crystals; when the scab separates a fresh application is made. He has never needed to make more than six applications.

Xanthoma Multiplex, or Tuberosum.—This is apparently quite a different form of growth. It usually develops during the early years of life, and while it may appear on the eyelids, it is more commonly seated on the limbs, the palms and soles, or the trunk. When it develops in adults, it is very often related to jaundice, and this connection is occasionally seen in children. Like the eyelid form, this owes its yellow colour to fat, but apparently in this form of the disease the fat develops more certainly in the generally supposed way; that is to say, a growth of connective tissue cells which undergo fatty degeneration is much more readily observed, and giant cells are not found. Cases have been known to involute, but as a rule, they grow to a certain size, about that of a shilling, and remain stationary, so that if their removal is desired, excision must be had recourse to.

Xanthoma Diabeticorum.—This is a variety of the disease associated with glycosuria, all the cases in which it has occurred either having glycosuria, or developing it subsequently. It is not very distantly related to the generalized variety, but its course is generally more rapid. *Plate XLVIII* is an illustration of a case which I have published along with Dr. James, under whose care the girl was, in the *Scott. Med. and Surg. Journal*. Most of the recorded cases have occurred in males.

The growths commence as little hard swellings, of a reddish colour, and it is only later that the fatty degeneration sets in, and the yellow colour appears. The sections show the structure of connective tissue tumours, some of the cells showing fatty degeneration. A considerable amount of fat was found in the tissue spaces, and may have been derived from broken-down cells. This form of the disease has its special seats of election on the elbows and knees, and then on the loins and buttocks.

The prognosis depends on the glycosuria. As that gets better, the skin eruption disappears. Any local treatment is of quite secondary importance.

XANTHELASMOIDEA.

(*Xanthelasma* and *elios*—like.)

Clumsy though this name may be, it appears to me eminently more applicable than the more generally used one of *Urticaria pigmentosa*. The disease is rare. It appears very early in life, and the first signs observed are those of urticaria. Typical wheals are undoubtedly present in most cases, but there is a further lesion which gives the disease its characteristics. Numbers of flat elevated areas, varying in size, appear all over the skin, and do not, like the wheals, disappear. They vary from pale to deep yellow or yellow brown in colour, and the resemblance to xanthoma is often remarkable. In particular the skin over them is not tense, as it is in the urticarial wheal. After a period of slow increase they gradually disappear, and, as a rule, vanish entirely in the years between puberty and adolescence. Cases are, however, on record where the lesions have been persistent. Under the microscope the tumours are found to be composed almost entirely of Ehrlich's mast cells, and their persistence seems to be an argument in favour of the connective tissue origin of these peculiar cells, and against their origin from leucocytes.

Time is the only remedy. Treatment has no effect upon the condition.

SECTION VII.

MALFORMATIONS.

There are many conditions which, in any complete system, would require to be described under the malformations of the skin; particularly certain tumours developed in connection with the glands, and certain forms of moles. Dermoids and atheromata are clearly malformations, but for their description other authorities must be consulted. The two of practical importance are Hyperkeratosis congenitalis, and Hypertrichosis.

HYPERKERATOSIS CONGENITALIS.

This is the condition which is usually described as congenital ichthyosis, the "harlequin fœtus." In it there is an excessive cornification of the surface cells, and the child is born clad in a sort of horny armour. As it grows and moves its limbs, this tends to crack in various directions, dependent on the movements. The disease is practically universal, all the skin being affected, and in this as in other points it differs from ichthyosis. As a rule, the subjects of it do not survive, but where the disease is present in its less severe form they sometimes do. It is distinguished from ichthyosis by the fact that it is congenital, whereas ichthyosis appears towards the end of the first year of life; and by its distribution, which is universal, whereas ichthyosis is rarely very widespread at first, and hardly ever affects the palms and soles, which this disease always does. The treatment consists in liberal nourishment, cod-liver oil, abundance of milk, etc., the cautious use of *thyroidin*, and the local application of weak salicylic ointments, which tend to promote more normal cornification.

HYPERTRICHOSIS.

Hypertrichosis, or the growth of hair in abnormal situations, is a condition which some consider is beneath the dignity of a physician to deal with. It is, however, a very real affliction for its victims, and by the depression which it induces, often has a serious effect on their mental condition.

It is a mistake to suppose that the growth of hair is indicative of masculinity of character. While no doubt the development of a moustache strengthens the appearance of a strong-minded woman, Hypertrichosis is frequently present in the most feminine of the sex. In most cases it is not possible to discover any apparent cause for the growth, but I am satisfied that repeated greasy applications, such as vaseline or cold cream, strengthen the growth of downy hairs.

If the hairs are few in number, and especially if they are growing from a mole, electrolysis is the most satisfactory means of treatment. It is a method which requires a good deal of skill, and every one must look back upon much wasted time in their early cases.

The patient is comfortably seated in a chair, and holds in one hand a handle connected with the positive pole of the battery, or dips one or more fingers in a basin of water connected with it. The operation is done with a needle attached to the negative pole. This is introduced into the follicle as carefully as possible in the line of growth of the hair. The current, of from three to five m.a., is passed for a few seconds, during which a white froth appears at the mouth of the follicle, and if the operation has been successful the hair can then be lifted out easily. One practised in the method can remove a great many hairs in an hour, but the beginner should confine his attention to a few, and do them thoroughly. In towns with the constant electric current, the electricity may be derived from the main, passed through a suitable resistance, but from four to eight pint Lechlanché cells are quite as efficacious.

The depilatory power of the X-rays was the occasion of their first therapeutic use. Their effects were so varied that only few cared to make systematic use of them. But now that they are more under control, it seems probable that their use will be extended, especially in those extensive cases where electrolysis would require hundreds of operations.

If for any reason these methods are not applicable, mechanical removal only remains. Women have an invincible objection to the razor, and invariably prefer some other form of removing the hair. Carefully applied, depilatory remedies are not so terribly injurious, and they need not be by any means so expensive as they usually are when sold as secret remedies. The *sulphides* of barium and calcium are those commonly used. The former, mixed with equal parts of oxide of zinc and starch, may be made into a thick paste with water and spread on the part. When dry, in about ten minutes, it is washed off, and the dissolved hair comes with it. The part should then be powdered, to diminish the slight irritation of the application. The sulphide of calcium is more active, and destroys the hair rather farther down the follicle, but is followed by a good deal more inflammation than the barium salt.

SECTION VIII.

SAPROPHYTES.

IN following Unna in placing Pityriasis versicolor and Erythrasma under this heading, I must confess to some misgiving. It is true that considering the amount of fungus present, there is very little disturbance, but there is sometimes a little scaling in pityriasis versicolor; not so much as the name would lead one to expect, but still enough almost to warrant one in regarding it as a very superficial inflammation.

PITYRIASIS VERSICOLOR.

This disease is due to the growth in the superficial layers of the skin, of the fungus known as the *Microsporon furfur*. It occurs most commonly upon the trunk, but it may also appear on the limbs and face. It consists in the development of yellowish areas, of various sizes, shapes, and shades. The larger patches are formed by the aggregation or enlargement of smaller ones, and the shade of colour varies from a pale yellow to a rich brown. The disease is most common in those who perspire freely, and do not change their garments sufficiently often, and it was certainly very common in consumptives, when avoidance of cold at all hazards was considered the essential treatment of that disease. Whether owing to the different views which now prevail, or not, cases certainly occur with much less frequency in Edinburgh than formerly, and students have far fewer opportunities of becoming familiar with them than their predecessors of a few years ago. There is very little of the scaling which the name implies, though scales may be scraped off readily enough with any blunt instrument; and the only disturbance which the patient suffers from is slight itching.

When the scales are examined in a drop of liquor potassæ under the microscope, the well-known appearances of the

fungus are shown. All who possess a manual of physical diagnosis are familiar with the bunch-of-grape-like spores and the long filaments of fungus. If, however, the surface layer of the skin is removed *en masse* by the application, for a day or two, of salicylic plaster, the natural arrangement of the fungus may be studied. If a portion of the removed horny layer is stained by Morris's method (*see* Ringworm), it is found to contain an enormous amount of fungus, an amount so enormous that it is hardly possible to see through its dense felting, and the spores are now by no means easy to detect. It would almost seem as if the potash disintegrated some of the fungus where the joints were very short and spore-like, and that these ran together by capillary attraction, as corks do in water.

DIAGNOSIS.—The disease with which those unfamiliar with it are most apt to confuse Pityriasis versicolor, is syphilis. The mistake should never occur. The history of long persistence, the slight itching, the profuse sweating, should all arouse suspicions of its nature, and microscopic examination will at once settle the point. In the scales of ring-worm it is not always possible to detect the fungus, in the scales of Pityriasis versicolor it is absolutely impossible to overlook it.

TREATMENT.—Treatment of the disease consists in the destruction of the fungus. It is often said that it is very apt to recur. Recurrence is a word which is often somewhat laxly used. If the disease is not removed, it will undoubtedly "recur," but it is insufficient and inefficient treatment which is responsible for the recurrences. The part should be thoroughly scrubbed with soap spirit, so as to take away as much of the fungus as possible, and then the affected region should be painted with some antiseptic solution. Lotions of perchloride of mercury or hypsulphite of soda, sulphur ointment, resorcin, or salicylic ointment—any of these will destroy the fungus. Perhaps as good a method as any is for the patient to take a warm bath nightly, to wash the parts vigorously, and to paint on a solution of tar in spirit, $\frac{1}{2}$ to 1 drachm to the ounce. The possibility that spores of the fungus adhere to the underclothing should be borne in mind, and that should be changed frequently.

Eichhoff recommends that quinine soap should be used to wash the part for some time after the disease has apparently disappeared.

ERYTHRASMA.

(έρυθρος—red.)

Erythrasma is a disease which we rarely see in this country, but it is by no means uncommon in many places. It has many resemblances to pityriasis versicolor, but is invariably limited to the genital and axillary regions. It is less extensive, is of a dark reddish-brown colour, and has usually an abrupt bright red edge. When the horny layer is removed in the manner referred to in connection with pityriasis versicolor, it also is found to contain a dense felt-work of fungus. The threads are very much finer than those of the *microsporon furfur*, and if the scale is broken up and made into a cover glass preparation, the fungus breaks up into bacillary-looking joints. A few spores are found among the felt-work. The name given to the fungus is *Microsporon minutissimum*.

DIAGNOSIS.—The disease with which it is most apt to be confounded is ringworm, which often occurs in the same regions. The eruption of ringworm causes very much more irritation, the border is more raised, and very frequently has vesicles upon it. Erythrasma is often only discovered accidentally, so slight are the symptoms.

The treatment of Erythrasma is the same as that of pityriasis versicolor.

SECTION IX.

ANOMALIES OF PIGMENTATION.

THE great "pigment" question, with its vexed points as to the nature and source of the pigment, and the method by which it reaches the epidermis from the blood, is too large for discussion here. Unna classes the diseases in which pigment is increased, with the Progressive disturbances of nutrition, and those where it is diminished with the Retrogressive. I think that for practical convenience, in such a work as the present, the arrangement I have selected is more useful for the students.

Increased pigmentation is associated with any long-continued inflammation of the skin, especially if the part be congested, or if itching has been a prominent symptom; but it is further very specially associated with certain specific diseases. The greyish brown pigmentation around a syphilitic scar is quite characteristic, while the rich brown stain left on the disappearance of a patch of lichen planus is often of value in the diagnosis of a doubtful case. Neglected cases of pediculosis are often associated with extensive pigmentation.

True pigmentation often results from the too long continued use of arsenic, under which circumstances it often affects all the areas of the disease for which the drug has been prescribed; and an apparent pigmentation due to the reduction of silver in the tissues occasionally follows on the ingestion of nitrate of silver (*Argyria*).

Pigmentation is an important feature in the early stage of the disease known as *Xeroderma pigmentosum* (*q.v.*), and an equally important feature in the mole, especially should it become malignant.

In all these cases other local disease is present; here we are concerned with those diseases where increase or decrease of the pigment is the only evident alteration.

EPHELIS or LENTIGO.

(ἐπι and ἡλιος—the sun : lens—a lentil.)

Freckles are minute, lenticular accumulations of pigment, and, as the name suggests, occur almost invariably on those parts of the surface which are exposed to the sun. They are most common on the face and arms, and during the summer months. They are found mostly in fair young people, and may be looked upon as an effort of nature to protect the deeper parts from the irritant action of the actinic rays of light. For the tissues beneath them they play the part of the photographer's red glass. Mr. Alexis Thomson has called my attention to the occurrence of pigmentation, sometimes taking the form of freckles, on any part of the surface, in patients who are affected with plexiform neuro-mata. The freckles which sometimes appear on all parts of the body in elderly people, are possibly of the same nature as these, and some apply to them the term lentigo, and restrict ephelis to the ordinary freckle.

The development of freckles in those subject to them can be prevented by avoidance of exposure to the sun, the hands being protected by gloves, and the face by a veil, brown, red, or yellow in colour.

They can be removed by various applications, which, however, do not prevent the appearance of fresh spots. All the various remedies used produce an exfoliation of the epidermis. The most popular is sublimate. It must be cautiously applied. A half per cent solution in spirit, painted on at night, is quite strong enough to commence with. Stronger solutions do indeed remove the pigmentation, but at the expense of a more or less severe blistering, which necessitates confinement to the house. If the patient is ready for such confinement, the method of shelling the skin with resorcin, described on page 159, is much more thorough and successful. The various bismuth salts have a certain depigmentary action, and may be used in ointments, as may boric acid and the peroxide of hydrogen. Unna recommends :—

R. Adipis Lanæ anhyd.	ʒj
Vaseline	ʒij
H ₂ O ₂	ʒss
Hg. Cl. ₂	gr. j
Bismuth Chlorid.	gr. v-xxx

Sig.—Apply at night.

PLATE XLIX.



VITILIGO OR LEUCODERMA.

CHLOASMA.

(χλωδῖω—to be pale green.)

Chloasma is a diffuse or circumscribed pigmentation of the skin of the face, which is induced, not by external irritation, but reflexly by some internal irritant.

It sometimes occurs in connection with hepatic, uterine, or ovarian, or any abdominal disease (*e.g.* appendicitis), but the great majority of cases are associated with pregnancy. The spots vary in extent; sometimes they are round or oval in shape, sometimes they extend so as to resemble a dark mask. The tint varies from a light yellowish, up to a deep, almost black brown shade. The discolouration usually disappears with the termination of the pregnancy or the cure of the disease, but is sometimes persistent.

The pigmentation may be temporarily removed by the methods recommended for the removal of freckles, but it will return unless the cause is removed.

VITILIGO or LEUCODERMA.

(*Vitulus*—a calf [*spotted* ?], or *vitium*—a defect; λευκός—white, and δέρμα—the skin.)

In this disease the disappearance of pigment from the skin and the hairs on it is the *only* anomaly present.

It commences as a small round or oval area, which increases in size, while fresh spots develop, until very large areas of the surface are entirely blanched, as shown in *Plate XLIX*.

Very often the skin immediately margining the patch is more deeply pigmented than the surrounding parts, and this suggests the idea that the pigment has been driven from a centre by some centrifugal force. The skin of the rest of the surface, too, often appears somewhat darker than normal.

While the disease is much more common, as it is much more striking, in the darker races, it is by no means uncommon in this country; but it often escapes notice, so slight is the contrast presented on the white skin of the Anglo-Saxon.

The disease gives rise to no symptoms, and is of purely cosmetic importance, except that it is sometimes confused by those not familiar with the diseases of the skin with the much more important scleroderma. There should be no difficulty in distinguishing the two, for while in this disease

the change is *only evident to the eye*, the skin feeling perfectly normal, in scleroderma there is often hardly any change visible on inspection, and it is only when an attempt is made to pinch up the skin that the hardness is noted. Biblical allusions lead some to suspect leprosy, but the absence of anæsthesia is distinctive. Vitiligo is entirely free from any danger to life, and gives rise to absolutely no symptoms.

TREATMENT is unsatisfactory. If the patch appears on an exposed part, attempts may be made to induce a certain amount of pigmentation in the white spot by mild counter-irritation. The chances of success are, however, not very great, and the best prospect for the patient is that the disease will become so extensive that the whole region will be affected. The well known connection of the suprarenal bodies with pigmentation, has suggested the administration of their active principle. The little girl from whom *Plate XLIX* is taken, took several bottles of suprarenal tablets without any benefit. And such is my usual experience, though one lady subsequently wrote me from India to report quite distinct improvement.

INDEX.

	PAGE		PAGE
A LDERSMITH, <i>p.</i> 165, 170, 173, 174; M'Call Anderson, 148, 233, 254; Arning, 72, 240, 243; Audry, 80; Auspitz, 23.		B ALFOUR, <i>p.</i> 52; Bazin, 63; Besnier, 202; Bier, 219; Blaschko, 15, 208; Blaxall, 164; Bockhart, 96, 103; Boeck, 67, 200, 239; Bowen, 182; Bramwell, 17, 149; Brocq, 33, 72; Brodie, 248, 259; Bronson, 33; Brooke, 192; Bulkley, 233.	
Acanthosis	106	Bacillus acnes	153
Acarus scabiei	87	— mallei	199
Achorion Schönleini	177	Bacterium decalvans	184
Acne vulgaris	152	Baker's itch	54
— varioliformis	160	Balsam of Peru	90
Actinomycosis	199	Baths	20
Acute circumscribed œdema	42	Batswing lupus	228
Adenoma sebaceum	264	Bazin's disease	224
Alcohol, in eczema	108	Belladonna rash	56
Alkalies	16	Blastomycosis	227
Alkaline baths	20	Blood-vessels of skin	6
Alopecia areata	181	Boils	196
— seborrhoica	135	Boracic starch poultice	19
Anæsthesia	33	Boric acid rash	56
Angio-keratoma	265	Boro-calamine lotion	112
Angioma	262	Bright's disease	31
Anidrosis	38	Bromide eruptions	58
Aniline dyes	51	Bromides	58
Animal extracts	17	Bromidrosis	35
Anomalies of circulation	8, 39	Brooke's ointment	216
— — pigmentation	275	Butterfly lupus	228
— — secretion	8, 35		
— — sensation	8, 31		
Anthrax	197		
— erysipelas	198		
— — œdema	198		
Antimony	14		
Antipyrine rash	56		
Antitoxin rash	56		
Anti-pruritics	18		
Apple-jelly nodules	209		
Argyria	275		
Arnica	48		
Arsenic	13, 51		
Arsenical rashes	56		
Arsenious acid	217, 251		
Asiatic pills	138		
Aspirin	16		
Astringents	18		
Atheromata	269		
Atrophoderma pigmentosum	252		
		C AMPBELL, <i>p.</i> 82; Cohn- heim, 259; Crocker, 15, 32, 36, 47, 138, 146, 183, 188, 195, 233, 244, 253.	
		Calamine lot on	133
		Calcium chloride	44
		— sulphide	156, 197
		Cancer, rodent	246
		— of the skin	246
		— melanotic	254
		Carbolic acid	18
		Carbonate of magnesia	21
		Carcinoma	246
		— melanotic	254

	PAGE		PAGE
Carron oil	29	Dhobie's itch	169
Caustics	18	Diabetes	31
— in rodent ulcer	251	Diachylon ointment	36
Cautery, Pacquelin	219, 264	Diagnosis	9
— Unna's	219	Drug eruptions	55
Celloidin	23	Dysidrosis	91
Chaulmoogra oil	244		
Cheilitis	119	E ICHHOFF, <i>f.</i> 158, 273;	
Cheirpompholyx	91	Engman, 96; Ewald, 139.	
Cheloid (<i>see</i> keloid)		Ecthyma	99
Chilblains	66	Eczema	101
Chloasma	277	— alcohol	108
Chloral rash	56	— climate in	110
Chloride of calcium	44	— diagnosis	104
Chloride of zinc	117	— diet in	107
Chondroma	265	— effect of soap	110
Chromidrosis	38	— — water	109
Chrysarobin	139, 172	— erythematous	111
— ointment compounds	140	— etiology of	102
Cicatrices, syphilitic	207	— exercise in	110
Circulation, anomalies of	8, 39	— histo-pathology of	104
Classification	7	— madidans	114
Clavus	265	— marginatum	169
Climate in eczema	110	— occupation in	110
Cocoons	154	— œdematous	112
Coil glands	5	— of anus	122
Cold cream	25	— — arms	124
Collodion	23	— — axillæ	121
Comedo	153	— — beard	119
Copaiba rash	57	— — ears	117
Copaiba, rash due to	57	— — eyelids	118
Copper salts	181	— — face	117
Corium	5	— — genitals	121
Corns	265	— — hands and feet	124
Cornu	266	— — legs	123
Corona veneris	204	— — lips	118
Craw craw	169	— — neck	120
Creams, cold	25	— — scalp	116
Croton oil	173	— — trunk	120
Crystallina	94	— papular	112
		— pustular	115
D ANIELSEN, <i>f.</i> 239, 244;		— scaly	115
Demme, 74; Doughty, 75,		— vesicular	113
225; Ducrey, 80; Duh-		— washerwoman's	54
ring, 3, 15, 16, 23, 72, 118,		Electrolysis	27, 259
127.		Ephelis	276
Dermatalgia	34	Epidermolysis bullosa	44
Dermatitis artefacta	59	Epithelioma	246
— exfoliativa	144	— in lupus	215
— herpetiformis	69	Epsom salts	17
— infective	85	Ergot	16
— medicamentosa	55	Erysipelas	195
— neurotic	60	Erythema	61
— trade	54	— bullosum vegetans	78
— traumatic	50	— centrifugum	228
— venenata	51	— induratum scrofulosorum	224
Dermographism	39	— iris	63
Dermoids	269	— multiforme	65

	PAGE		PAGE
Erythema nodosum	62	Horns	266
— pernio	66	Hydroa	69
— scarlatiniforme	64	— gravidarum	73
Erythrasma	274	— puerorum	73, 253
Extracts, animal	17	— vacciniforme	73
F		Hyperidrosis	15, 35
FINSEN, <i>f.</i> 30, 186, 214, 221,		Hyperkeratosis congenitalis	269
222; Fox, Colcott, 55;		Hypertrichosis	270
Fox, Tilbury, 91, 92, 95,		Hypertrophic scar	261
101.			
Favus	176	I	
Feigned eruptions	59	ICHTHYOL	15
Fibroid lupus	216	Ichthyosis	148
Fibroma	260	— hystrix	148
Fissures	122	Impetigo, Bockhart's	96
Folliculitis scrofulosorum	227	— circinata	96
Football Itch	95	— contagiosa	95
Framboesia	201	— serosa	95
Freckles	276	— vulgaris	95
Furunculosis	196	Infective inflammations	85
G		Inflammations	9, 50
GALLOWAY, <i>f.</i> 75; Gil-		— infective	85
christ, 153, 227; Gowers,		— neurotic	60
56; Gram, 166; Graves,		— traumatic	50
47; Gründler, 21.		Iodide eruptions	58
Gelanthum	22	Iodide of potassium	16
Germinal layer	2	Iodides	58
Giant urticaris	42	Iron	16
Glands	199	Itch	86
Glyco-gelatin	23	Itching	31
Granular layer	2	J	
Gummata	205	JACOB, <i>f.</i> 247; Jadassohn, 146;	
H		James, Dale, 58, 202;	
HALL, 73; Hansen, 240, 243,		Jamieson, Allan, 14, 23, 49,	
244, 245; Harrison, 175,		144, 149, 185, 203, 218, 237,	
236; Head, 82; Hebra,		252, 254; Johnston, 267;	
7, 12, 19, 36, 55, 61, 68,		Jutassy, 263.	
116, 189, 227, 230, 235,		Jaundice	32
238, 262; Hektoen, 228;			
Herxheimer, 253; Hilde-		K	
brand, 253; Hodara, 163;		KAPOSI, <i>f.</i> 69, 90, 138;	
Holder, 232; Hutchinson,		Koch, 212; Kynsey, 201,	
14, 56, 76, 84, 183, 205;		202.	
Hyde, 101, 227.		Kaposi's disease	252
Hæmorrhages	44	Keloid	261
Hair follicles	4	Keloid of Addison	238
Harlequin foetus	269	— Alibert	261
Head's segments	82	Kerion	168, 174
Hebra's ointment	36	Kerion, artificial	173
— soap spirit	28	Kieselguhr	21
Heredity in leprosy	240	Koilonychia	188
Herpes	78	L	
— circinatus	168	LAING, <i>f.</i> 238; Lang, 201,	
— facialis	78	217; Lassar, 26, 114; Leis-	
— genitalis	79	tikow, 26, 36; Lesser, 192;	
— gestationis	73	Levack, 263; Liddell, 22,	
— iris	63	Limont, 237, 261; Linde-	
— zoster	80	mann, 238; Liveing, 165,	
		193; Lusk, 194.	
		Lactic acid	185

	PAGE		PAGE
Pediculosis vestimentorum	48	Rete Malpighii	2
Peliosis rheumatica	64	Rheumatism	62
Pemphigus acutus	74	Rhinophyma	134
— foliaceus	77	Rhinoscleroma	200
— neonaturum	74	Rhus toxicodendron	51
— septic	76	Ringworm	163
— vegetans	78	— cultivation of fungus	167
— vulgaris	74	— fungus of	163
Pepsencia	209	— honeycomb	176
Pernio	66	— method of staining fungus	166
Peru Balsam	90	— mosaic	164
Photo-therapy	29	— rosary	165
Pick's liniment	22	— of beard	169
Pigmentation, anomalies of	275	— — body	168, 170
— in lichen	190	— — nails	170
— in syphilis	205	— — scalp	163, 170
Pilocarpine	16	Rodent ulcer	246
Pityriasis	142	Röntgen rays	29
— rosea	142	Rosacea	132
— rubra	144	Rupia	205
— — pilaris	147		
— versicolor	272	SABOURAUD, <i>p.</i> 35, 103, 154,	
Plants, irritating	51	159, 160, 184; Sack, 25, 46;	
Plaster muslin	27	Schiscka, 87; Schutz, 235;	
Pompholyx	90	Shattuck, 258; Sheppard,	
Port wine marks	263	237; Sherwell, 89; Skinner	
Post mortem wart	212	22; Startin, 20.	
Potassium iodide	16	Salicin	63
Potato nose	134	Salicylate of soda	63
Poultices	19	Salicylic acid	16, 205
Powder bags	21	Salol	63
Powders	21	Salve muslin	27
Prickle layer	2	— stick	27
Prickly heat	94	Saprophytes	272
Primula obconica	53	Sarcoma	255
Prurigo	68	Scabies	86
Pruritus	31	Scar, hypertrophic	261
— ani	32	Scarification	234
— hiemalis	32	Sclerema neonatorum	239
— mental	32	Scleroderma	236
— vulvæ	32	Scrofuloderma	223
Psoriasis	135	Scrum pox	95
Purgatives	17	Scurvy, land	45
Purpura	44	Scutulum	178
— hæmorrhagica	45	Sebaceous glands	4
— rheumatica	45, 64	Seborrhœa	125
Pustule, malignant	197	— congestiva	228
		— corporis	127
QUINCKE'S, Œdema	42	— oleosa	126
— Quinine	16	Seborrhœic dermatitis	125
Quinine rashes	57	Secretion, anomalies of	8, 35
		Sensation, anomalies of	8, 31
RICKETTS, <i>p.</i> 227; Ringer,		"Shelling" the skin, method of	159
197; Rorie, 260; Russell,		Shingles (<i>see</i> Zoster)	80
46, 84.		Skin, cancer of	246
Radio-therapy	221	Skin, structure of	2
Radium	222	Soap spirit	28
Reducing agents	19	Soaps	27

	PAGE
Spider nævus	262
Splenic fever	198
Staphylococcus aureus	96, 103
— epidermidis albus	103
Starch baths	20
Starch poultice	19
Stratum corneum	3
— germinativum	2
— granulosum	2
— lucidum	3
— mucosum	2
Streptococcus	96
Structure of skin	2
Sudamina	94
Sulphide of barium	271
— — calcium	156, 197, 271
Sulpho-calamine lotion	159
Sulphur	15
Sulphur baths	20
Sunburn	50
Supra-renal extract	18
Sweat glands	5
Sweating	35-38
Sycosis	160
— menti	169
Syphilis	203
Syphilis, pigmentation in	205

THIN, George, *f.* 184; Thomson, Alexis, 260, 262, 276.

Tar	140
— acetone	23, 141
— baths	20
Terra silicea	26
Thiosinamin	262
Thyroid extract	17
Tinea barbæ	169
— capitis	163
— circinata	168
— tonsurans	163
Trade dermatitis	54
Traumaticin	23
Treatment	12
Trichophyton megalosporon	166
Trichophytosis	163
Tuberculosis	209
Tuberculous meningitis	12
Turpentine rashes	57

	PAGE
UNNA , <i>f.</i> 3, 5, 8, 19, 26, 27, 38, 54, 60, 74, 94, 103, 128, 134, 150, 172, 186, 194, 196, 202, 209, 218, 228, 238, 241, 253, 262, 272.	
Ulcer, rodent	246
Ulerythema centrifugum	228
Uranium	223
Urea	223
Urticaria	39
— bullosa	42
— gigantea	42
— hæmorrhagica	42
— papulosa	42
— pigmentosa	42, 268
— rubra	39

VAN BRUN , <i>f.</i> 186.	
— Valsol	29
Varnishes	22
Verruca	256
— necrogenica	212
Vitiligo	277
Vlemmingkx's solution	158

WALSH , <i>f.</i> 40; Welander, 15; Welch, 103; White, 51, 54, 233; Whitfield, 225; Whitla, 209; Wil- lan, 7, 68; William, 92; Wilson, Erasmus, 7, 99, 189, 195; Wright, 44.	
Warts	212, 217, 256
Wilkinson's ointment	90
Wooden tongue	199

X-RAYS	29
— Xanthelasma (<i>see</i> Xanthoma).	
Xanthelasmaidea	268
Xanthoma	266
— diabeticorum	267
— multiplex	267
Xeroderma (<i>see</i> Ichthyosis).	
— pigmentosum	252, 275

YAWS	201
— Yeast	156, 197

ZONA	80
— Zoster	80

LANE MEDICAL LIBRARY

To avoid fine, this book should be returned on
or before the date last stamped below.

Nov. 10 - 1913

DEC 3 1913

APR 1 1914

OCT 4 1915

T71 Walker, Norman
W182 Introduction to der-
1905 matology 8078

NAME	DATE DUE
Barnett May 6 '13	MAY 13 1913
G. L. Hagman	
" "	
Miss Mrs. Coskey	Nov. 19, 1913
Pruett	Dec. 15, 1913
E. L. Gay	
E. E. Goodrich	Dec 6, 1914
R. G. Jones	Dec 18, 14
W. Boyle	Dec 31, 14
C. Ainslie	Dec 19, 18

